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Devoted to the Upbuilding of the Nation Through the Development
of the South and Southwest as the Nation's Greatest Material Asset

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What Next in Highway Development and Motor Transportation?

AT the end of 1928, 24,750,000 motor vehicles were registered in this country. To date, more than \$25,000,000,000 has been invested in motor transport facilities, improved highways and vehicles. Less than 25 years ago, roads were built to serve horse-drawn vehicles; 15 years ago they were built to carry private automobiles at speeds up to 25 miles an hour; today, highways are built to carry at high speeds private motor cars, heavily loaded trucks which move no less swiftly, and large buses carrying 40 to 60 passengers each, over scheduled routes calling for an average speed of 40 to 45 miles an hour.

A 16-foot road width sufficed for safe vehicle operation on trunk line routes a decade or so ago; today, road builders generally are agreed that a road surface of under 20 feet in width is inadequate. In and about the country's congested cities we find 4-lane, 6-lane and 8-lane highways actually in use, under construction or laid out, with various types of traffic segregated to serve best the users of the highways.

Transcontinental super-highways are proposed, along with similar roads running north and south. Toll roads are suggested, to provide super-service between important termini now reached by public highways taxed to the limit of their carrying capacities. The service of such toll roads might be compared to Pullman service on the railways, and this extra service—that is, the ability to travel at high speed with safety over a highway without any grade intersections or railway crossings, would, it is argued, justify a fair charge that the motorist would be glad to pay.

Now, we find conflicting traffic movement being eliminated by the construction of highway grade separation projects whereby one road passes over another, calling for the construction of elaborate facilities for expeditious movement of traffic. One Chicago project of this character alone involved the expenditure of more than \$1,000,000.

Of necessity the first roads in our highway systems were routed over the old carriage roads and this meant that they would pass through the main streets of our towns and cities. But the demand of the motorist for speed with safety has caused a change of sentiment in this matter and routes are being shortened wherever possible to avoid congested areas and to facilitate straight line movement. These routes are to the roads what through tracks are to the railroads, and the lateral highways to the towns and cities are comparable to the spur lines of our railroads.

Vehicular tunnels have been built or are planned in sections where congestion is particularly heavy and are justified as economic necessities. The first year of operation of the

Hudson vehicular tunnel from New York City to New Jersey shows the necessity for such construction.

Huge bridges as major links in our system of highways are being provided, in some cases by the states and cities and in other instances through collection of tolls, either by private enterprise or by the states. Moreover, the old narrow, lightly constructed structures, that very well served a decade ago are being replaced by steel and reinforced concrete bridges, sufficiently wide and strong to serve today's demands of bus and truck transport.

Road design is being materially affected by changing types of motorized equipment. The first hard surface roads were constructed with high crowns to facilitate drainage and with thick centers to withstand traffic. Today the highways are made practically flat, banked at curves, and the edges are thickened to withstand the impact of heavily laden trucks and great buses; in addition, shoulders of 5 to 10 feet are maintained on each side.

Only a few years ago it did not greatly matter that the roads were so poorly maintained as to be impassable in winter, or that snow was allowed to remain on the highways, except as it might disappear through weather conditions. Yet today some states are spending upwards of \$1,000,000 for snow removal and find that it repays handsomely in that failure to remove snow causes serious damage to the road surface and impedes traffic, and with the roads open the year round the increase in gasoline tax revenue more than offsets the cost of snow removal, however heavy.

In a comparatively short time, highway transportation has undergone a vast number of radical changes. It is difficult to say which has come about more rapidly, evolution of the highway or changes in motor vehicle equipment. When buses first were used to transport suburbanites to cities and towns, railroad operators declared that while this would affect their short-haul passenger business on local trains, it would not affect their general passenger business. But today we find the country honeycombed with bus lines that operate from city to city on schedules making it possible to traverse the continent from east and west, and from north and south, and the railroads now face the loss of additional passenger business to the motorbus. Bus terminals, particularly designed to care for passengers of these bus lines, are being built in increasing numbers and developed to a point approaching the accommodations in modern railway union depots. Motor freight terminals are corollary developments. We find many plants today delivering their products direct to retail stores and to other points of consumption by big trucks and trailers that operate in fleets.

Trucks have been developed to a high degree of perfection;

some operate with the quietness, speed and efficiency of the private automobile and are equipped with all necessities to facilitate 24-hour service, thereby fitting them for long-distance hauling. Trucks now have fine springs, hydraulic shock absorbers, pneumatic tires and other devices to give speed and comfort and to eliminate breakage. Hydraulic 4-and 6-wheel brakes make high speeds practicable.

Traffic congestion in the larger cities has reached such proportions that it is responsible for the development of a new type of industrial building—the multi-storied garage for city parking purposes, where the motor ramp or similar designed systems expedite the handling of stored vehicles. The development of good roads and expansion of the motor vehicle industry have brought into being enormous allied industries, and all of these have added to the nation's business activity, creating new employment and wealth.

ARKANSAS GOVERNOR AND LEGISLATORS STUDY INDUSTRIAL DEVELOP- MENTS IN SOUTHEAST.

HEADED by Governor Harvey Parnell and Lieut. Governor Lee Cazort, the legislators of Arkansas are touring North Carolina, Virginia, Georgia, Alabama and Tennessee, in order to obtain first hand information as to how to aid the industrial development of Arkansas. This plan is reminiscent of a trip made a few years ago by Arkansas business men, and is one more step in a well-laid and determined plan to develop the great latent resources of the state. In connection with the present tour, V. C. Pettie's description of the former trip quoted in chapter IV of "Log of an Arkansas Cruise," published in the MANUFACTURERS RECORD September 22, 1927, is worth repeating:

"Some time ago," said Mr. Pettie, "under the auspices of the Camden Chamber of Commerce, backed up and supported by the Arkansas Power and Light Company and the railroads of the state, 110 prominent and progressive business men made a trip of 2350 miles on a special train through Alabama, Georgia, the Carolinas and Tennessee. In North Carolina they found a state remarkably like Arkansas, low in the east, mountainous in the west, rich in minerals, well supplied with timber and power (we have hydro, lignite, coal, oil and natural gas, and every portion of the state has a share of one or the other), and above all, very similar in population. The same Scotch-Irish strain that, once aroused, has brought North Carolina so rapidly to a position of leadership, is the dominant strain out here. Our 110 business men found that North Carolina communities had developed small industries with local capital, energy and talent. They learned that after prosperity had been created in North Carolina by native efforts, then and only then, outside capital poured into the state in search of bargains. Those 110 men, going about their business in all parts of the state, are tremendously inspired by the vision of our possibilities, and they are awakening the whole state. We realize that we are just about where North Carolina was 25 years ago. We are consciously and deliberately taking North Carolina as a model, and are setting to work to improve upon it. Outside capital will be welcome, but we aren't going to wait for it; we are going ahead with our own capital, energy and brains. Outside capital will come, right enough."

Revision of the existing laws of Arkansas was necessary before development could be attempted under the most favorable circumstances. The fact that the legislature is traveling in a body a third of the way across the continent to get necessary information at first hand, and to get it into the mind of every member, indicates an unusually alert, progressive group of legislators and promises well for the state's future. With business men, legislators and governor so thoroughly aroused, and with a population, topography, climate and resources so strikingly like those of North Carolina, we should see Arkansas progressing in the next few years with phenomenal speed, and along the same and sound lines taught by close study of the best that is to be found in North Carolina, Virginia, Georgia, Alabama and Tennessee.

MOTORISTS RUSHING TO FLORIDA.

INDICATING the movement of motorists from the North to the South, the Miami Herald reports that between noon and 6 P. M. on Saturday, December 29, 195 automobiles bearing out-of-state licenses passed the Information Booth into Miami. Thirty-six states and the District of Columbia and Canada were represented in these cars, the list being as follows:

New York, 29; Massachusetts, 5; Illinois, 18; District of Columbia, 6; Michigan, 18; Maryland, 4; New Jersey, 14; Tennessee, 4; Wisconsin, 4; Georgia, 6; New Hampshire, 2; Rhode Island, 2; Maine, 1; Vermont, 1; Oregon, 1; California, 2; Mississippi, 1; North Carolina, 1; South Carolina, 3; South Dakota, 2; Oklahoma, 1; Delaware, 3; Missouri, 2; Connecticut, 2; North Dakota, 3; Alabama, 3; Minnesota, 3; Ohio, 23; Virginia, 3; Nebraska, 2; Kansas, 1; Washington, 1; Canada, 2; Pennsylvania, 8; Iowa, 1; West Virginia, 5; Colorado, 1, and Indiana, 10.

This is simply the report of a part of one day's arrivals during which a record of incoming cars was kept. All over the state of Florida out-of-state cars are in evidence everywhere.

On Tuesday, the count showed 274 out-of-state cars arriving at Miami, with about 1000 passengers, representing 33 states and Canada. On the same day, the steamship Iroquois of the Clyde Line arrived at Miami with 420 passengers direct from New York, while the steamship Fairfax of the Merchants and Miners Line arrived from Philadelphia with 100 passengers, having landed about the same number at Jacksonville. Many leading Florida hotels report that their reservations are far ahead of this time last year.

On the following Monday, a count was kept of all out-of-state automobiles entering Miami, between 2 P. M. and 6 P. M., with the result that 161 cars were reported for the four hours thus checked, representing the following states:

New York, 37; Ohio, 17; Massachusetts, 5; New Jersey, 16; Illinois, 7; Indiana, 10; North Dakota, 1; Pennsylvania, 9; Maryland, 3; Tennessee, 4; Michigan, 5; Missouri, 3; Kentucky, 3; Mississippi, 3; Kansas, 1; District of Columbia, 1; Virginia, 1; Connecticut, 3; Maine, 4; Alabama, 2; North Carolina, 4; Georgia, 4; Wisconsin, 2; Rhode Island, 2; New Hampshire, 2; South Dakota, 2; California, 3; Louisiana, 1; South Carolina, 3; Nebraska, 1; Minnesota, 1; Iowa, 1.

TULSA'S GOOD WORK.

SUGGESTIVE of the way in which many communities in the South are spending money freely for beautification and for cultural development is a statement published in a recent issue of the MANUFACTURERS RECORD to the effect that Tulsa, one of the wonderfully growing cities of Oklahoma, will expend about \$500,000 to establish an amusement park. The main building is to be of Egyptian architecture, including a natatorium 100 by 338 feet long with white tile, and equipped with violet ray and filtration systems and a submarine lighting system. A ball room on the second floor will provide for 1800 couples. Tennis courts, lakes and gardens are to be constructed by the city in this amusement park.

Comparatively a few years ago Tulsa was a struggling country village; it sprang suddenly into life with the development of the oil industry, and ever since it has been rapidly growing into a city of metropolitan proportions and cosmopolitan activities in religion and in educational and kindred work. But Tulsa is only one of the many towns and cities of the South and Southwest carrying on such splendid activities.

H. J. MADDOX, of the Maddox Grocery Co., Bainbridge, Ga., in the course of a letter writes:

"You may be sure that the MANUFACTURERS RECORD is prized more highly than any other paper that comes into our business or our home. Truly the South owes you a big debt of gratitude."

Wide Discussion Under Way in Different States About Gasoline Tax for County Built Highways.

MANY people in Florida believe the state has expended so much money on splendid highways that it could now wisely lessen these expenditures and appropriate a portion of the income from the gasoline tax to the payment of interest or the amortization of bonds issued by the counties for highway work. The advocates of this plan take the ground that as the highways built by the counties are equally as important to motorists as are those built by the state, they really form a part of the state highway system, and that, therefore, the state should take cognizance of that fact and apportion a part of the gasoline tax to lessening the taxation in the individual counties for the payment of the bonds issued for highways.

On the other hand, some leading attorneys in the state say this would be thoroughly unconstitutional, and that it could not be done; some for a while took the ground that the tax on gasoline should be lessened, holding the belief that the state need not spend so freely on highway building as it has heretofore been doing.

The same question is being faced in Texas, and in an interesting letter from Governor Moody, published in this issue, he refers to a proposition being considered there of issuing \$225,000,000 of state bonds for highway work and the apportionment of some of the money thus raised by payment to the counties as a refund of the amount they have expended from their local bond issues in the construction of designated highways. The suggestion was made by the chairman of the Highway Commission that if this plan should be carried out and the money be refunded, it could be used for the retirement of county bonds or be voted on by the people for the construction of new lateral roads.

The annual income of the Texas Highway Department, including Federal aid, is upward of \$20,000,000 a year, but the vast area of that state has made it impossible as yet to carry out a complete highway building system over the entire state.

The information given in Governor Moody's letter as to the discussion that is taking place in Texas on this subject in connection with the question of issuing \$225,000,000 of bonds, will prove of extreme interest to the people of Florida and of all other states where counties have issued bonds for the building of highways which should in effect be a part of a general state highway system.

During 1925, 1926, 1927 and up to December 1, 1928, Florida had received from the gasoline tax \$39,855,643; the income for 1927 being \$10,980,585, and up to December 1, 1928, amounting to \$10,376,480. The distribution of this fund as given by Ernest Amos, Comptroller of Florida, to the MANUFACTURERS RECORD is as follows:

Distribution:	
Expense of Collection.....	\$18,000.00
Paid to Counties for County Roads.....	9,434,419.59
Paid to State Road Department.....	27,403,746.65
Public Free School Fund.....	1,999,655.65
Permanent Building Fund.....	999,822.59
	<hr/>
	\$39,855,643.48

One interesting fact in connection with the gasoline taxes is that in the collection of \$39,855,643 the total collection cost was \$18,000. The cost of collecting \$21,044,312 for automobile licenses was \$126,265, which of course involved the cost of having the license tags made and their handling through different agencies all over the state. But to collect \$39,000,000 in gas tax money at a cost of \$18,000 is a remarkable achievement.

Automobile licenses have brought into the state during 1925, 1926, 1927 and for the first eleven months of 1928 \$21,044,312. The receipts as reported by Comptroller Amos and the way in which these funds have been expended are shown as follows:

Collected during year of 1925.....	\$3,645,627.80
Collected during year of 1926.....	6,789,685.80
Collected during year of 1927.....	5,692,128.02
Collected to December 1, 1928.....	4,916,871.27
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	\$21,044,312.89

Distribution:	
Expense of Collection.....	\$1,262,658.77
Balance 5% Maintenance Road Department.....	989,082.71
Balance 25% to Counties for County Roads.....	4,945,418.53
Balance 70% to State Road Department.....	13,847,157.88
	<hr/>
	\$21,044,312.89

In further discussion of this subject as it relates to the situation in Florida Mr. Amos writes:

"I am not advised of any decision rendered by the courts of this State in relation to the distribution of the gasoline tax to the several counties.

"That part of the gasoline tax which is used for State Road building constitutes all but 25 per cent of the four cents per gallon tax collected, of which 25 per cent is distributed equally between the counties, each county receiving the same.

"In referring to the gasoline tax above, I am including only four cents of the five cent tax authorized and collected on gasoline sold in the State of Florida, because one cent of the tax is applied to educational purposes and distributed among the different counties of Florida to that end.

"The 25 per cent of the four cents of the gasoline tax which is distributed to the counties is distributed in equal amounts to each of the different counties, regardless of the population or wealth of the county, and is used for county road purposes.

"There are a number of miles of state roads that have not yet been paved, although designated for that purpose by the legislature and these roads that have been so designated are of the greatest importance to the state.

"The effect of the suggestion made by you, if it could be adopted, would be to send a larger amount of the gasoline tax money into a few counties, and other counties would not receive any benefit therefrom, consequently, it would not be a uniform or equal method of distributing the tax collected from all the people of the State."

The suggestion has been made by some Florida people, but not by the MANUFACTURERS RECORD, that a portion of the gasoline tax should be allotted to the counties for highway bonds issued by the counties in proportion to the amount of the tax collected in each county.

In giving some additional details of Florida's gasoline tax, Comptroller Amos in a later letter says:

"The law providing for a tax on gasoline was passed in 1921. And the tax fixed was one cent per gallon, all of which went to the State Road License fund to be expended by the State Roads Department.

"In 1923 the Legislature increased the rate per gallon to two cents and provided for the first time that one cent per gallon of such tax should be equally divided between the counties of the State of Florida for road purposes. That provision has been incorporated in each law thereafter, consequently each county has received its pro rata share since that time of the proceeds of the one cent per gallon tax on gasoline.

"The rate was one cent per gallon in 1921, and three cents per gallon in 1923 and 1924 and six months of 1925, and the other six months had the tax of four cents per gallon and during the year 1926 and up to July 31, 1927, the tax was four cents per gallon. In 1927 the act was changed so that the tax was five cents per gallon, the additional one cent per gallon being divided between the institutions of higher education of the state. But the distribution of an equal amount to each county of the one cent of the tax has been kept up since July 1923 to date."

Prospects Point to a Year of Sound Prosperity.

TWO aspects stand out pre-eminent in any thoughtful consideration of the outlook for American industry and other business for 1929: The sentimental and the practical. They embrace both the national and the international spirit.

On the sentimental—as differentiated from the emotional—side, the outlook is encouraging. The prevalence and soundness of the national spirit of good will in the United States is demonstrated by the political peace which prevails after one of the most bitter Presidential campaigns in several decades. In industry and business, the old order of reckless, cut-throat competition is passing, and fair and legitimate rivalry takes its place. Due in some measure to the fact that the employe now is becoming a stockholder in the concern for which he works, relations between employer and employe are reciprocally cordial, and the agitators in organized labor circles find their profession less influential than once it was. The national sentiment, on the whole, seems settled for 1929. Good will may be said to be the dominant note in American national and international relations.

Much more coldly calculated is the outlook for American industrial and other business conditions in a thousand and one varied lines. Predictions and opinions must be based on the operation of the law of Supply and Demand, which is immutable. Will the consumer be able not only to absorb the huge production of American industry, but also able to stimulate production to an even higher point? Apparently, American business and financial leaders believe that demand will keep supply near top notch—thus, the resultant prosperity will spread through all elements of American life.

"I look forward with confidence to continued progress in the year ahead," is the conclusion of Secretary Mellon's review of the year just closed.

"Business is entering the new year upon a high level of activity and with confidence in the continuance of prosperity," says C. E. Mitchell, president of the National City Bank of New York.

"The outlook for 1929 is encouraging," says W. B. Storey, president of the Santa Fe system. And H. M. Lull, executive vice-president of the Southern Pacific Lines in Texas and Louisiana, says there is no reason to anticipate any falling off in revenues from agriculture the coming year, and they expect to expend \$9,000,000 on capital investment in additional and improved facilities.

"The Nation's business, including the public utilities, seems to be destined for another year of new records in progress and prosperity," is the opinion of John J. O'Brien, president of H. M. Byllesby & Co., investment securities, Chicago, and:

"Our industrial population at home is the largest, most prosperous, and affords our farmers the best domestic market in the world," says Secretary Jardine for agriculture.

The confidence of business in general may be discerned in an estimate by the 13 Shippers Regional Advisory Boards that "carload shipments of the 29 principal commodities in the first quarter of 1929 will be approximately 8,048,075 cars, an increase of 373,569 cars, or 4.9 per cent over the same period in 1928."

On a basis of \$6,756,000,000 of building construction in 1928, continued demand for steel from that source may be considered assured. Not only does 1929 open with a large amount of carry-over building business from last year, but also Government construction plans will reinforce the private building demand to a tremendous degree. In the line of public buildings, Congress has provided for future expenditure of \$250,000,000, of which \$78,957,822 was made actually available for use on July 1, last, and thereafter for the fiscal year 1928-29. Ultimately, over \$70,000,000 will be invested in public buildings in the District of Columbia alone. To offset

higher costs of materials and wages, the building construction industry has devised improved methods, making possible new economies, and little, if any, increased cost for new structures is anticipated as a deterrent to building operations.

Another barometer of American business conditions is the railroads, and this is described by railroad men as "fair." Not that the green light is set at every block on the aggregate railway system, but that reasonable speed will be maintained, without indication of delay or disaster. The prediction for increased loadings for the first three months may be extended, in all reasonable conservatism, for succeeding months, and also hope prevails that the roads may be eased of some present burdens by legislation and a change in the Government attitude toward these carriers. At all events, the railroads are preparing to spend hundreds of millions of dollars in the new year for equipment of all kinds, for new track and new signal equipment and for the unnumbered commodities which they need in the conduct of their business. Of particular interest are plans for the electrification of long stretches of roadway, this involving not only the purchase of wire and other such equipment, but also the provision of tremendous additional output by various hydro-electric and other power companies.

From a negligible position in the country's general scheme of business 15 or 20 years ago, highways construction has developed into a factor of prime importance, and hundreds of millions of dollars will be spent by various States and the National Government in the purchase of materials and the payment of labor in that activity in 1929. Seventy-five million dollars has been actually appropriated by Congress as the Federal contribution to the good roads movement up to June 30, next, and \$75,000,000 is authorized for the fiscal year beginning on July 1.

For cotton, in both the field and the factory, the prospect for 1929 is cheering. World stocks of American cotton are reported to be smaller than at the opening of 1928; activity in industries, such as the automobile and aeronautics, indicates larger demand from those consumers, and new uses for the staple in many lines are constantly being sought and being found. Practical and unoppressive financing for the grower, it appears, is to be furnished, and production of the raw material is to be placed on a practical, rather than a haphazard, basis. Public confidence in the stability of the manufacturing end is shown by reports of increased interest by investing bankers in the securities of cotton textile concerns, while the manufacturing industry itself is improving its production methods and readjusting its distribution methods in a manner which must prove remunerative to all concerned. The upward trend in domestic mill activity is expected to gain speed, rather than to slacken.

Long in the slough of despond, the bituminous coal industry is striving to work itself into a position where profitable production may be assured. The situation has become so bad that remedial measures must be taken, and these the industry now, perforce, seems about to institute and work out to conclusion.

For the first time in years, it may be said, Agriculture sees promise of prosperity in the new twelvemonth, and prosperity for agriculture means proportionate prosperity in other lines. Not only is the political party now in power pledged to helpful, businesslike legislation for the farmer, but also the farmer is studying business himself with a view to helping himself in practical business fashion, while in the White House a constructive and experienced President will guide the relief movement along practical lines. A new year dawns for Agriculture—a year opening with hope and promise.

"The year 1929 has most favorable aspects for the lumber

industry," is the view of O. O. Axley of Warren, Ark., "and I believe it will be a much better year for the lumber interests than 1928," to which J. W. LeMaistre of Lockhart, Ala., adds: "The trend of business throughout the year 1929 is hard to analyze now, but it does seem that proposed expansion in various lines should indicate a very prosperous year for those who are in position to meet the requirements of the trade."

Particularly bright is the American outlook for foreign trade. That the foreign purchasing power is expanding is shown by the volume of America's export business, especially in the Latin-Americas, in which the United States trade excels the aggregate of its five closest competitors. Arguments that continuance of the American protective tariff tends to keep down American export trade have been proved to be fallacious; foreign countries will buy American goods when they have the money, and they now seem to be getting more money and to be buying correspondingly more American goods. The beneficial trade influence of Mr. Hoover's goodwill tour has been discussed by the MANUFACTURERS RECORD in recent issues.

From a political, or legislative angle, the outlook is equally assuring, both positively and negatively. No legislation seems threatened which would tend to the restriction of business, or to inspire nervousness, and legislation is contemplated which should stimulate, or at least stabilize, business in material measure. Much legislation, it is believed, may be averted through action by industry and business, themselves, as counseled by the prospective President, a course which Mr. Hoover had pursued through his incumbency as Secretary of Commerce and which he is expected to continue as President. Business conferences with Secretary Hoover, so long a feature in the Department of Commerce, will be held in the White House with President Hoover, and the Government, as far as the Executive can manage, will be co-operative, rather than dictatorial.

Such is a very brief summary of the situation at the opening of 1929. The future is full of promise.

CONFIDENCE IN THE SOUTH.

FURTHER letters expressing confidence in the industrial and business stability of the South have been received since the publication of a number of views in our issue of January 3, and worthwhile opinion may be said to be almost unanimous that 1929 has great things in store for the South.

L. W. Baldwin, President, Missouri Pacific Lines, St. Louis, writes:

"Because basic economic conditions generally throughout the entire Middle West and Southwest are more satisfactory than they have been at any time in recent years, and because the year just closing also has been a most satisfactory one, viewed from almost every angle, there is every reason to expect the year 1929 will be one of the most prosperous, if not the most prosperous, in the history of these sections.

"Agriculturally and industrially the entire territory is making marked progress. Cotton yields and prices have been generally satisfactory, and the same situation applies to the livestock situation. Railroads and other public service institutions never were in better condition. We have every reason to expect 1929 to be a banner year."

Few men are better qualified to speak about business and industrial conditions than John E. Edgerton, president of the National Association of Manufacturers and also head of the Lebanon Woolen Mills, Lebanon, Tenn. And particularly interesting in his letter is the following paragraph:

"In my thought, I cannot divorce material progress from morality. It seems to me that our chief problems now are in the latter field. We cannot, in my opinion, advance much further economically until the Nation's sense of moral respon-

sibility is more thoroughly quickened and strengthened. This is as much the job of business men and industrialists as it is that of anybody else. In fact, it is really more so, since their opportunities for leadership are the greatest. How, therefore, to improve the morals of our Nation and of every section of it is, to my mind, the outstanding problem upon which our Nation's future hinges."

On general business lines, Mr. Edgerton writes:

"As I see the situation in the Nation, we have very few serious problems which progress itself has not imposed. The political and economic conditions which now exist are favorable to further advances in 1929. There is undoubtedly a general feeling of optimism among business men and thinking people in all classes as they contemplate the tasks ahead.

"The South, in particular, is in the strongest position in every way which it has ever occupied. Never was its outlook so bright. The textile industry as a whole is still the victim of its excessive productivity. But even in that industry the general situation is undoubtedly improving."

From the home office of the Life Insurance Company of Virginia, at Richmond, President Bradford H. Walker writes:

"With good crops, lower inventories and larger bank deposits than ever before in the history of the country, unless we are confronted with some unforeseen catastrophe I see no reason why 1929 should not be a period of expanding growth. I do not think the average man on the street has the power to visualize the tremendous possibilities in the growth of this country and the wonderful changes that will take place through synthetic chemistry and the advancement of electricity in our manufacturing processes. Everyday luxuries are entering the list of necessities in the life of the average American citizen, and all this will be reflected in a constantly increasing expansion of business, and I think this country has entered a period of growth which cannot be compared with any previous rule of expansion. Faith in this country and our fellow-citizens, with ample cash reserves, will spell ever increasing wealth and prosperity in the years to come."

W. E. Dunwody, president of the Standard Brick & Tile Company, Macon, Ga., says:

"Manufacturers of burned clay products—brick and hollow tile—in the Southeast will greatly benefit during the coming year, in my opinion, from a greatly increased volume of construction work in Georgia, Florida and South Carolina. Our feeling that 1929 will show a decided increase is based on reports received from contractors, architects and building material dealers and from the building permits issued in the last quarter of 1928. Many cities throughout our territory hung up new records for building permits issued in that period.

"I believe the Southeast has definitely passed the low point in the construction 'cycle' and is headed upward. Although there will be a large amount of work in construction of commercial and industrial buildings, the building of residences, which has lagged farthest behind, will show a volume far surpassing that of 1928 and very likely closely approach the unparalleled volume of 1926."

As president of the American National Bank, Richmond, Va., Oliver J. Sands writes, in part:

"Certainly there has been no period when optimism was more general in the United States than today. Mr. Hoover's election has contributed to the optimistic feeling. His goodwill tour to South America increases our confidence in him as a business leader. American industry needs markets for its products and South America is a logical outlet where exchange of commodities can be accomplished without affecting local production. There are factors in many lines of business which are worthy of our best thought, because of readjustments necessary to meet the radical changes due to new discoveries and inventions, substitutes for staple products, like paper from corn stalks; perfection of and new types of engines, electrification of railroads, buses for street cars, mergers of banks and business institutions, chain stores, investment trusts, air mail, instalment buying, etc., changes almost overnight that are revolutionizing fixed methods and practices. Here in Richmond we are justified in our own optimism. In the universal language of this speculative period, one would be sure to lose if he sold Virginia or Richmond 'short.'"

As Daniel Willard, president of the Baltimore & Ohio Railroad, puts it to the personnel of that system:

"At the present time, the outlook for 1929 seems to promise satisfactory business with steady employment. The physical

condition of the property should enable us during the coming year to establish new records of performance and higher standards of service for our patrons if we all earnestly strive to perform our individual tasks in such a way as to reflect credit upon ourselves and at the same time be worthy of the great company with which we are connected."

H. M. Lull, executive vice-president, Southern Pacific Lines in Texas and Louisiana, writes from Houston:

"The harvest season now closing has been, in general, favorable, in that a normal cotton crop was raised both in Texas and Louisiana and price has been fairly well maintained. The sugar crop in Louisiana is far above that of the past several years, owing to introduction of new varieties of cane. Prices for livestock, wool and mohair have been good, while the results from some other farm products, particularly the grains and corn, are somewhat below normal. Generally speaking, farm and ranch crops and produce have brought normal returns or better and this has had a good effect on business in this territory in general. Building operations have also been well maintained and employment kept up to normal standard. The fruit and vegetable season in the Lower Rio Grande Valley and other portions of Southern Texas and Louisiana is now coming on and promises good results.

"At this time, there is no reason to anticipate any falling off in revenues from agriculture during the coming year, and Southern Pacific Lines in Texas and Louisiana expect to expend approximately \$9,000,000 on capital investment in additional and improved facilities."

P. H. Callahan, Louisville Varnish Co., Louisville, Ky., writes:

"Generally speaking, industrial conditions in this section during 1928 were not quite up to the average of the two or three preceding years, due to temporary depression of certain classes of business, particularly the coal industry in Eastern Kentucky and Virginia. However, there is apparently every reason to anticipate the prospects for 1929 with supreme confidence, for with the establishment of many new industries, especially the manufacture of cotton goods, in the South, due to the great waterpower developments taking place, as well as the utilization of other natural advantages, and with construction work of all kinds unusually heavy, there will be ample opportunity for employment of labor, which in turn, will stimulate business of all kinds."

Robert Jemison, Jr., The Jemison Companies, Birmingham, Ala., writes:

"To the American people, the luxuries of yesterday are the necessities of today and the necessities of today the necessities of tomorrow. With such an order, apparently there can be no such thing as a saturation point, and in the absence of any indication of abatement in inventive and industrial genius, it would appear that we may justifiably expect 1929 to bring us improved business conditions and a continuing higher standard of living. There will always be phases of our economic structure that run contrary to this rule for short periods. None at present appear to have sufficient force to change the order.

"Security prices will inevitably be readjusted, very probably to the discomfiture of the repeatedly forewarned marginal operator, and business will be further improved by the resultant readjustment of commercial interest rates."

HOW ADVERTISING HELPS CONSERVATION.

IN this issue of the MANUFACTURERS RECORD appears the first of a series of advertisements by the Southern Pine Association of New Orleans on the wide range of utility of Southern pine. In these days of conservation, the forests take precedence over almost every other provision of nature with which God has blessed this land, and the use of durable and lasting lumber, by keeping down the natural increase in demand to the normal annual proportion, saves just that many trees for the forests. Millions of Southern pines are growing in the South today, strong and sturdy through generations of resistance to the battering ram of storm and stress, and the use of such timber assures long life in buildings and tends in course of time to tremendous aggregate saving. This is constructive advertising, in that it develops actual good, as well as business profit.

\$42,104,000 EXPENDITURE PLANNED BY SOUTHWESTERN BELL TELEPHONE CO.

1929 Construction Program for Five States Involves General Expansion of Facilities.

In order to provide for the expanding needs of the territory it serves, the Southwestern Bell Telephone Co., St. Louis, announces it plans to expend \$42,104,000 during 1929 in Missouri, Kansas, Arkansas, Oklahoma and Texas, the five states in which it operates, and which cover four operating areas. Estimated expenditures in each of these areas are as follows: Eastern Missouri and Arkansas, \$10,117,000; Western Missouri and Kansas, \$9,608,000; Texas, \$14,281,000, and Oklahoma, \$8,148,000.

Approximately 16,500 new telephones will be put into service in Eastern Missouri and Arkansas, the area in which St. Louis is included, together with dial equipment in Little Rock and St. Louis and 1152 miles of new cable circuits. Plans for Western Missouri and Kansas call for the completion of a 14-story addition to the telephone building in Kansas City and the installation of dial equipment, the construction of a building extension in Topeka, Kans., and the installation of about 11,500 new telephones.

Building operations are planned in Dallas, Fort Worth and Houston in the Texas area, with about 134 miles of inter-city toll cable to be added to the system. Approximately 20,000 new telephones will be connected to the system in Texas during the year and about 10,000 in Oklahoma. Other work in the Oklahoma area will include about 178 miles of inter-city toll cable and the construction of buildings in Tulsa and Stroud.

Fort Bragg Barracks One-Third Completed

The construction of barracks at Fort Bragg, N. C., is about one-third complete, according to the W. P. Rose Co., Goldsboro, N. C., recently awarded general contract at approximately \$294,000. The following sub-contracts have been awarded:

Electrical work—Thompson Electric Co., Raleigh, N. C.
Painting—Brewer Paint and Wall Paper Co., Rocky Mount, N. C.
Plumbing and heating—Bryce Plumbing and Heating Co., Florence, S. C.
Reinforcing steel—Greensboro branch of Truscon Steel Co., Youngstown, Ohio.
Roofing—Gate City Roofing Co., Greensboro, N. C.

Construction is of reinforced concrete and brick and covers a field artillery battalion barrack and field artillery regimental barrack, with utilities. Capt. Lawrence L. Simpson is the Constructing Quartermaster.

Southwestern Portland Cement Company Expands Plant.

El Paso, Tex.—Important additions are being made to the plant here of the Southwestern Portland Cement Co., which will materially increase its capacity. The additions will consist of three distinct units, the first of which is a Cottrell plant for dust collection on waste heat boilers installed by the Western Precipitation Co., Los Angeles, Cal. A second unit is a 3500-kilowatt turbine to be furnished by the Westinghouse Electric and Manufacturing Co., East Pittsburgh, Pa., for the accommodation of which an addition will be built to the power house. A 10-foot burning zone will be added to No. 3 kiln.

\$269,000 Low Bid on U. S. Veterans' Hospital.

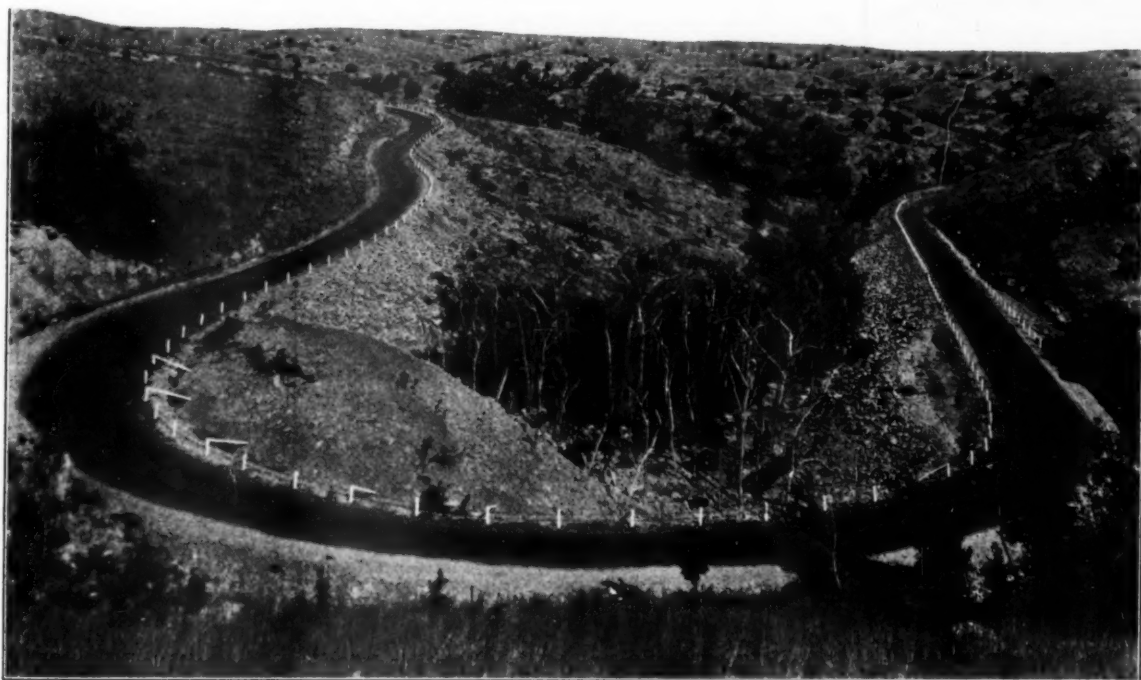
Tuskegee, Ala.—The W. P. Thurston Co., Inc., Richmond, Va., submitted the low bid at \$269,000, for constructing a building here for the U. S. Veterans' Hospital. Low bid for elevator equipment was submitted by the Westbrook Elevator Co., Danville, Va., at \$3800.

South's \$400,000,000 Highway Program

THE aggregate value of awards for road and bridge projects, as published in the construction columns of the MANUFACTURERS RECORD for the 16 Southern States during 1928, shows that the South experienced its greatest period of activity in highway improvement, with more than \$400,000,000 representing the total investment in road, paving and bridge projects undertaken. This indicates that the South is buying road materials and road building machinery and equipment at a rate never before equalled.

That the road construction peak in this section is far from reached is indicated by the voting in November of bonds for state highway systems totaling \$140,000,000 in Louisiana, West Virginia and Missouri. Georgia, Mississippi and Alabama are considering state road bond issues. Texas is discussing plans for a \$325,000,000 state-wide issue. In addition, the annual revenue from the gasoline tax levied in each of the Southern States is steadily increasing.

Greater consideration is being given to the width of highways to accommodate big buses and heavy trucks, to increasing the factor of safety in design and construction and to the proper maintenance of year-round highways. The volume of this class of construction in the South and Southwest indicated for the future is a significant feature of present-day highway development.



Highway over Arbuckle Mountain near Turner Falls, Okla., surfaced with rock asphalt laid cold.

\$4,665,000,000 Value of Output of Motor Vehicles and Allied Products in 1928

4,630,000 Vehicles Produced Last Year—24,750,000 Motor Vehicles in This Country, 78 Per Cent of World's Total

A TOTAL production of 4,630,000 motor vehicles with a wholesale value of \$3,045,820,000 in 1928, is indicated by figures compiled by Alfred Reeves, general manager of the National Automobile Chamber of Commerce. In 1927 production totaled 3,530,000 vehicles and the wholesale value was \$2,556,750,000, and in the preceding year 4,480,000 vehicles were produced with a total wholesale value of \$3,056,950,000.

One of the most significant figures for the year is the total of 810,000 motor vehicles exported, representing 17.5 per cent of the output of this country's automobile plants. In the preceding year 543,000 motor vehicles were exported, or 15 per cent of the country's output. The United States now has 78 per cent of the world's automobiles, the total registration of motor cars and trucks in this country being 24,750,000. Reports from the various states show a total of 21,630,000 passenger vehicles and 3,120,000 trucks registered. The world registration of motor vehicles is given as 31,725,000.

Closed cars produced in 1928 numbered 3,441,600, or 85 per cent of the total passenger cars manufactured. In 1927 closed cars produced comprised 80 per cent of the total output of passenger cars, compared with 74 per cent for the preceding year.

Motorbuses and trucks are being used in great numbers by steam and electric railways. Last year 365 street railways were operating 9900 buses, compared with 370 street railways using 8500 buses in the preceding year. Buses used by 67 steam railroads in 1928 numbered 1250, compared with 1200 used by 60 railroads in 1927. At the end of last year railroads using motor trucks as part of their shipping service number 59. Motorbuses are being more widely employed each year in transporting pupils of consolidated schools, 14,850 buses being used for this purpose in 1928. At the end of 1928 motor buses in

Preliminary Facts of the Automobile Industry for 1928

By Alfred Reeves, General Manager,
National Automobile Chamber of Commerce.

PRODUCTION.

Cars and trucks produced in U. S. and Canada	4,630,000
Cars	4,044,000
Trucks	586,000
Production of closed cars	3,441,600
Per cent closed cars	85%
Wholesale value of cars	\$2,630,500,000
Wholesale value of trucks	\$415,320,000
Wholesale value of cars and trucks	\$3,045,820,000
Average retail price of cars	\$876
Average retail price of trucks	\$955
Tire production in U. S.	78,500,000
Wholesale value of rubber tires for replacement	\$670,000,000
Wholesale value parts, accessories for replacements, also service equipment	\$950,000,000

REGISTRATION.

Motor vehicles registered in U. S.	24,750,000
Motor cars	21,630,000
Motor trucks	3,120,000
World registration of motor vehicles	31,725,000
Per cent of world's automobiles in U. S.	78%
Motor vehicle registration on farms	5,450,000
Miles of surfaced highway	615,000
Total miles of highways in U. S.	3,013,584
1928 highway expenditures	\$1,500,000,000
Number of persons employed in motor vehicle and allied lines	4,110,000
Taxes on motor vehicles	\$785,386,000

RETAIL FINANCING.

Per cent new cars sold on time	58%
Per cent new trucks sold on time	52%
New cars average note at time of purchase	\$606
Used cars average note at time of purchase	\$295
New trucks average note at time of purchase	\$832

AUTOMOBILE'S RELATION TO OTHER BUSINESS.

Number of carloads of automotive freight shipped over railroads in 1928	3,600,000
Rubber used by automobile industry	85%
Plate glass used by automobile industry	60%
Copper used by automobile industry	12%
Iron and steel used by automobile industry	15%
Gasoline consumption by motor industry	80%
Gasoline used by motor vehicles (gals.)	10,860,000,000
Motor oil consumption (gals.)	434,000,000
Crude rubber used by motor industry, 1928 (lbs.)	814,000,000
Cotton fabric used in tires, 1928 (lbs.)	299,500,000

MOTOR TRUCK AND MOTOR BUS USE.

Motor trucks in use	3,120,000
Motor truck owners	2,271,000
Motor buses in use	92,000
Consolidated schools using motor transportation	14,850
Buses used by street railways	9,900
Buses used by steam railroads	1,250
Street railways using motor buses	365
Steam railroads using motor buses	67
Railroads using trucks as part of shipping service	59

FOREIGN SALES.

Number of motor vehicles sold outside U. S.	810,000
(U. S. exports and Canadian output)	
Value of motor vehicles, parts and tires sold outside U. S.	\$680,600,000
Per cent increase in foreign sales over 1927	26%
Per cent sold outside U. S.	17.5%
Number of motor vehicles imported	520

MOTOR VEHICLE RETAIL BUSINESS IN U. S.

Total car and truck dealers	53,700
Public garages	51,600
Service stations and repair shops	95,400
Supply stores	79,100
Gasoline filling stations	317,000
Gasoline pumps in use	604,000

use totaled 92,000, compared with 90,000 in use at the end of the preceding year.

In addition to the actual production of motor cars and trucks, there were manufactured 78,500,000 tires, with a total wholesale value of \$670,000,000, and parts and accessories, exclusive of tire, amounted to more than \$950,000,000, which, together with the wholesale value of trucks and cars produced, gives a grand total of more than \$4,665,000,000, and this represents only the wholesale value of the main products of the motor vehicle industry for a single year.

The number of persons employed in the automobile industry and allied lines totals about 4,110,000, compared with 3,675,000 persons so employed in 1927.

About 3,600,000 carloads of automotive freight were shipped over the country's railroads last year. The automobile industry uses 85 per cent of all the rubber imported. It also consumes 60 per cent of the plate glass produced, 12 per cent of the copper and 15 per cent of the iron and steel turned out in this country. In 1928 cotton fabric used in making tires alone amounted to 299,500,000 pounds. Besides, large quantities of cotton and cotton fabrics are used in constructing and finishing motor vehicles. Last year 10,860,000,000 gallons of gasoline and 434,000,000 gallons of lubricating oil were consumed by motor vehicles in this country. Traffic surveys show that the average annual mileage covered by motor vehicles is steadily increasing with a corresponding increase in the consumption of gasoline, oil, etc. By keeping highways open the year round motor vehicles are being more generally used over a 12 month period.

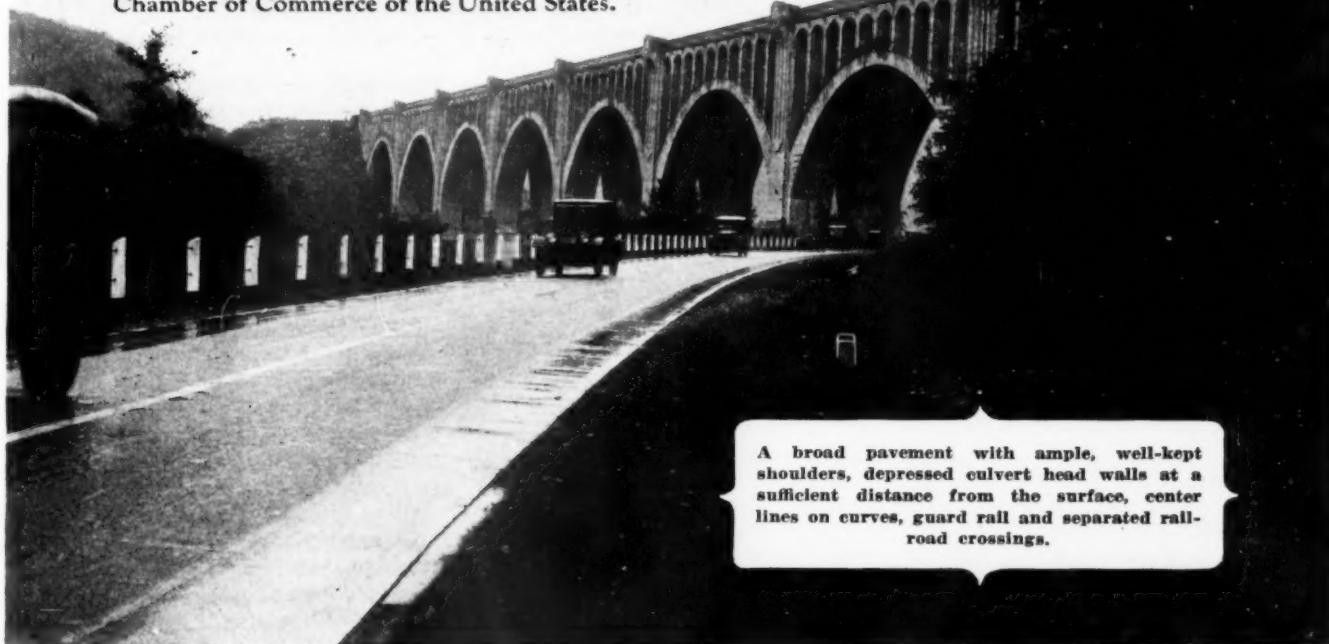
The motor vehicle retail business in the United States comprises 53,700 automobile and truck dealers, 51,600 public garages, 95,400 service stations and 79,100 supply stores.

Motor vehicle taxes last year totaled \$785,386,000.

Building Safety Into The Highways

By
C. W. STARK,

Transportation and Communication Dept.,
Chamber of Commerce of the United States.



A broad pavement with ample, well-kept shoulders, depressed culvert head walls at a sufficient distance from the surface, center lines on curves, guard rail and separated rail-road crossings.

TRAFFIC statistics, so far as they reveal the true causes of accidents, indicate that the development of the highway and of the motor vehicle are far ahead of the development of genus homo to an understanding of his responsibilities in operating a motor car, and to the judgment required to operate it safely. In other words, probably 90 per cent of our highway accidents are ascribable to mistakes on the part of one or more of the participants in the accident. Nevertheless, we cannot doubt that there would have been a better chance for the avoidance of many of these mistakes if the roadway had been wider, or if there had been a clearer view, or if some other condition within control of the highway authorities had been different. Unexplainable as it is that every now and then a motorist in broad daylight drives his car into the side of a moving train, he could not do this if the train was on a bridge 20 feet in the air.

Engineers by training and instinct think safety, and the groups responsible for the design and construction of motor vehicles and of highways had already gone a long way on the road to safety when the accident toll, despite their good work, had reached the alarming proportions which led in 1924 to the organization of the National Conference on Street and Highway Safety. Nevertheless, it was obvious that the goal had

not yet been reached, and one of the committees of the first conference was on construction and engineering. That committee arrived at 24 recommendations, and substantial progress has been made in carrying out each one.

Roadway Widths.

The first recommendation has to do with the width of the roadway; while improvement in this direction has not been spectacular, perhaps no single type of improvement has been a greater factor for safety. In the early days, improved rural highways were deemed wide enough if two ordinary automobiles could pass each other at moderate speed



A wide West Virginia road. The surface is amiesite on penetration macadam base and macadam sub base, with 3-foot concrete shoulders.

without running off the pavement. They were designed with the greatest strength where it was then thought most needed, namely, in the center. The increasing number of wide buses and trucks reduced this margin of space in passing, and traffic broke down the thin edges of the pavement, making the effective roadway still narrower. It is likely that many accidents attributed to inattention or to incompetent driving have been the result of nerves frayed by frequent running off the broken edges of narrow roadways. While we yet have some of these narrow roadways, much has been accomplished through widening, and our newer two-lane roads are being built of 18 or 20-foot width, giving the motorist in heavy traffic a greater sense of security and fitting him better to meet emergencies when they arise.

Two improvements closely related to this one are the gradual disappearance of the high crown formerly believed necessary for drainage but now known to be a fruitful cause of skidding in slippery weather, and the widening of the roadway at curves. We are also attempting to look ahead in building our major highways, and provide additional right of way so the highway can be widened without excessive expense when the traffic demands it.

We have not attained all that might be desired in the elimination of narrow

bridges. In the case of a bridge long enough to involve great expense in widening to the width of the roadway, it is ordinarily so conspicuous that the motorist has adequate warning, except where there is a sharp curve in the approach so that he does not realize the bridge is narrow until he is on it. There seems little excuse, however, for the narrow bridge of 20-foot span which creates a bottleneck at the meeting of two descending grades, and it would appear that these should be brought to the full width of the improved roadway without delay.

While our engineers have been reaching a safer standard of width for two-lane highways they have been replacing two-lane thoroughfares of heavy traffic with multiple-lane highways, cutting through missing links and so opening up new through routes, widening streets of heavy traffic in built-up districts, and straightening out kinks and streets which did not join properly. Only a



One of the standard caution signs for use on the United States highway system.

small percentage of the improvements needed along these lines have been accomplished, but the difficulty here is one of finance rather than of engineering.

Grades and Curves.

Before the arrival of the motor car, roads as a matter of course followed the topography closely, and we had steep grades and sharp curves. When railroads are double-tracked or otherwise improved to carry traffic more expeditiously it is common practice to make wide departures from the original alignment. In improving our highways it has been natural to hold more closely to the original alignment, and so we have retained in many of the improved roads grades and curves dangerous for present-day motor speeds. The tendency in recent years has been to eliminate these danger points. The Committee on



A substantial type of guard rail on the Dixie Highway in Robertson County, Tenn.

Construction and Engineering recommended maximum grades of 6 per cent on highways of primary importance, and minimum radii of 300 feet. It further recommended cutting away trees, shrubs and sloping banks to improve the view of approaching vehicles at curves, and cutting down sharp hill crests.

Guard Rails.

The original purpose of a guard rail along a highway on an embankment appears to have been merely to warn motorists from driving over the edge. It has been demonstrated that such flimsy structures do not accomplish their purpose; they are being largely replaced now by substantial structures which are a guard in fact as well as in name.

Signs, Signals and Markings.

One of the important accomplishments in building safety into the highways is the development of standard practices in traffic signs, signals and markings. The pioneer work was done by the Joint Board on Interstate Highways, consisting of representatives of the American Association of State Highway Officials and the United States Bureau of Public Roads. This board completed a manual in 1926 embracing virtually every type of warning, direction and information sign likely to be needed on a rural highway. The state highway departments and the Bureau of Public Roads regard these signs as an essential part of the

building of the highway, and the standard types are gradually replacing the heterogeneous collection of signs, official and unofficial, which hitherto lined our highways, pointing out imaginary dangers in some places, pointing out real ones in others in a manner which did not register with the average operator, and totally ignoring some serious danger points.

Carrying the work of the Joint Board into the cities and towns, a committee of the American Engineering Council is completing a code of recommended practice in street traffic signs, signals and markings; it contains the standards adopted by the Joint Board in so far as they apply to city conditions, and extends to other signs, signals and pavement and curb markings needed to cover urban conditions. It is hoped that municipal authorities will see in these indications the value of standardization and through the adoption of this code in conjunction with the general adoption by the State Highway Departments of the state code we will reach a universal language in signs and signals which will be a potent factor in eliminating misunderstanding and thereby reducing congestion and accidents.

Railroad Grade Crossings.

Another important point of attack is the railroad grade crossing, since approximately 10 per cent of our street and highway fatalities occur at such



Relocating a Road to Correct Alignment.

The famous "Dead Man's Curve" on the Baltimore-Washington Boulevard, showing the location before and after elimination of the dangerous curves. Improved visibility and flatter curvature have eliminated this danger spot.



Overpass on recently completed road between El Dorado and Callon, Ark.

crossings. To eliminate all grade crossings would require a prohibitive sum of money; hence the best we can do is to expend available funds so as to eliminate a maximum of hazard. While it is necessary each year to assign large sums to individual crossings of heavy traffic, much headway is also being made through smaller expenditures for the consideration of grade crossings preliminary to their elimination, and to relocation prior to improvement parallel to the railroads in such manner as to avoid repeated crossings. Attention is also being given to suitable highway approaches to underpasses or overhead bridges, in contrast with some of the earlier eliminations where because of sharp curves, obstructed view and narrow clearances it is questionable whether the hazard for motorists under present traffic conditions is not even greater than if the highway were carried over the railroad at grade but with an unobstructed view.

In spite of the grade crossing elimination programs going on, the total number of railroad grade crossings in the country is constantly increasing, and for many years we must look for comparative safety at many grade crossings not toward elimination but toward safeguarding the crossing at grade as fully as possible. The railroads have made a substantial advance in developing a visible warning signal in place of the bell which is so often out of order and is

taken with so little seriousness by many motorists. The railroads have also been at work on more substantial crossing gates, where gates are warranted, although they have not been fully successful in devising a gate which cannot be crashed by the heedless motorist.

There is still ample opportunity for making safe for the motorist the crossings protected by neither gates nor flagmen. We still find crossings where the motorist cannot see an approaching train until nearly on the tracks; also sharp turns or other driving hazards which tend to divert the motorist's attention; and crossings where there are sharp breaks in the grade at or near the tracks. These hazards cannot be laid entirely to the railroad company, inasmuch as they are frequently wholly or in part outside the railroad right of way. In this entire matter there should be a better understanding by the public of its responsibility. In grade crossing elimination it is generally conceded that the public should pay a fair share of the cost; in grade crossing protection the tendency is still to impose the entire burden on the railroad.

Highway Grade Crossings.

The physical separation of intersecting or otherwise conflicting streams of motor traffic is attracting attention. We have outstanding illustrations of this type of improvement in Wacker Drive, Chicago, and the superhighways of the Detroit

metropolitan area. In the former, there was a conflict of local and through traffic in the heart of the wholesale district on a totally inadequate street. Through an improvement costing millions, and involving not only the construction of a double-deck street a mile long, but also the acquisition of valuable property and the removal of buildings to provide suitable width and alignment, this conflict has been eliminated, the through traffic moving on the upper level without interference with the local traffic on the lower level.

In the Detroit area we have the somewhat different purpose of affording traffic an opportunity to move into and out of the city for many miles at high speed on broad thoroughfares, the center lanes of which are designed for the exclusive use of fast moving traffic and are carried over all intersecting streets so they are free from grade crossings. The De-



Thorough maintenance is a prime safety requisite. A modified bituminous road in West Virginia.

troit superhighway system is as yet only in its beginning, but promises to give an opportunity for expansion that will greatly help to relieve the congestion of the inner city, thus in turn becoming a great factor for safety.

Improvements of this character are as yet for the few communities confronted with exceptional traffic problems of a magnitude justifying large expenditures. As more communities come into that class, still more spectacular and costly steps will doubtless have to be taken to meet new and more difficult situations.

Reference was made early in this article to the National Conference on Street and Highway Safety and its Committee on Construction and Engineering. Besides the efforts of this organization and the national organizations directly participating in the conference, there should be mentioned also the valuable work of the Highway Research Board, the American Road Builders' Association



Pontoon Bridge Across Arkansas River.

This structure at Dardanelle, connecting Pope and Yell Counties is said to be the longest pontoon in the world, having served at the location for 35 years. A new steel and concrete bridge replacing the pontoon may be seen at the right.

and other groups. And none of this should detract from the individual accomplishments of many of the highway and traffic engineers.

It should be noted that much of this engineering effort has been directed toward the expediting of traffic, and situations have been cleared up where under the old conditions with present traffic

demands there would be tremendous congestion and in some cases complete traffic confusion and paralysis. It is apparent that congestion is conducive to accidents, and that facilitating the ready flow of traffic is itself building safety into the highways. It is equally apparent that the constant growth of traffic is introducing new problems, that the con-

struction of highway facilities is linked closely with the utilization of them, that what is safe and sufficient this year may not be safe two years hence, and that the engineer must be brought more completely into every phase of the work, particularly into the complex problems confronting the fast growing towns and cities of the country.



The Up-to-date Highway Calls for Serious Consideration of That Once Neglected Dimension—Width.

This wide highway permits speed with safety. It is a stretch of the Crescent Highway near Camden, N. J., which speeds pleasure-bound motorists on to New Jersey's playgrounds.

\$138,000,000 Southern Road Bonds Sold in 1928

BOND sales for the financing of road, paving and bridge work in the 16 Southern States in 1928 totaled \$138,114,500, representing 331 separate issues, according to a compilation prepared from items published in the financial columns of the MANUFACTURERS RECORD. For 1927 the total issue of such securities ran to \$182,337,000, as compared with \$118,552,100 in 1926.

For 1928 an aggregate of 55 issues amounting to \$21,640,500 places Texas in the forefront, individually, with North Carolina a close second, with 21 issues amounting to \$21,545,000 sold during 1928. Alabama ranks third, having sold last year road and bridge bonds in the

amount of \$19,203,000, representing 8 issues. Arkansas is not far behind, having marketed 18 issues totaling \$19,191,500.

In April last road and bridge bonds sold had a valuation of \$30,156,500, representing 26 issues, the highest monthly total for 1928. March, with sales approximating \$18,000,000 for 37 issues, holds second place. December is third with the sale of 20 issues aggregating \$16,863,000. November is a close fourth, 25 issues having been marketed with a total par value of \$16,844,000. The heavy sale of bonds for this class of construction in November and December is particularly significant, and indicates that

a big volume of road and bridge construction will be undertaken this year.

While all the Southern States have for some years utilized the gasoline tax to finance highway construction and maintenance, some find it desirable and profitable to float bond issues to speed construction. With the steady increase in the registration of motor vehicles, revenue from the gasoline tax is growing annually, and highway construction on an enlarged scale is made possible. Last year bonds were voted for state systems as follows: Missouri, \$60,000,000; Louisiana, \$30,000,000, and West Virginia, \$35,000,000. North Carolina has expended on its state system more than \$135,000,000 provided by bond issues, and there has been such a corresponding increase in revenue through the gasoline tax as a result of the improved highways open the year round that a survey indicates that within five years it will be possible to pay annually the interest on the bonds, pay off the serial bonds maturing from year to year, set aside a substantial sinking fund to pay bonds in the future, properly maintain all state highways, and in addition to construct 300 to 400 miles of highways annually.

Many counties, districts and municipalities recently voted bonds for road and bridge work. In practically all the states the revenue from gasoline tax and license fees shows a steady increase annually, so that these funds together with the money available from the sale of bonds provides a huge sum for building new roads and bridges and for maintaining in excellent condition the roads on at least the important and through routes. All of which means that the South is buying road building machinery and materials at a rate never before surpassed, and there is no indication that the peak in road building activities in the Southern states has been reached.

COMPARATIVE RECORD OF NUMBER OF ISSUES AND THE PAR VALUE OF SALES OF BONDS IN THE SOUTH FOR ROADS, PAVING, BRIDGES, ETC.

	1928	1927	1926
Alabama	8 \$19,203,000	21 \$11,063,000	17 \$5,159,000
Arkansas	18 19,191,500	12 13,886,500	18 1,518,000
Florida	31 6,681,000	100 27,741,500	98 40,132,700
Georgia	10 1,398,000	15 1,562,000	17 2,416,000
Kentucky	18 1,455,500	19 2,828,030	16 3,026,000
Louisiana	22 4,022,000	24 6,344,000	19 6,296,900
Maryland	10 3,102,000	12 1,641,000	12 441,000
Mississippi	35 6,926,500	38 7,267,500	23 4,852,500
Missouri	11 3,670,000	8 5,943,000	5 15,165,000
North Carolina	21 21,545,000	39 29,762,000	42 14,268,000
Oklahoma	7 1,825,000	17 8,280,000	8 2,345,000
South Carolina	36 11,967,500	36 16,078,000	21 5,044,500
Tennessee	32 11,172,500	54 12,235,500	37 3,659,000
Texas	55 21,640,500	75 28,092,000	19 3,421,500
Virginia	6 614,000	6 1,915,000	9 5,388,000
West Virginia	11 3,700,500	12 7,698,000	15 5,419,000
	331 \$138,114,500	488 \$182,337,000	376 \$118,552,100

SOUTHERN ROAD AND BRIDGE BOND SALES, BY MONTHS.

	1928	1927	1926
January	35 \$7,885,000	41 \$7,426,500	23 \$5,729,000
February	20 5,951,000	32 9,510,500	22 6,571,500
March	37 17,998,500	35 16,051,500	33 8,281,400
April	26 30,156,500	37 11,630,000	34 19,852,500
May	38 8,353,500	32 20,144,500	41 5,066,000
June	40 15,179,000	41 33,253,000	27 9,032,000
July	25 5,376,500	37 12,599,000	36 9,355,000
August	29 7,102,000	59 12,595,000	21 5,486,000
September	19 4,395,000	50 17,051,000	54 24,661,200
October	17 2,010,500	37 11,564,000	39 6,668,000
November	25 16,844,000	33 11,870,000	20 3,038,000
December	20 16,863,000	54 18,642,000	35 14,711,500
	331 \$138,114,500	488 \$182,337,000	376 \$118,552,100



A 40-foot highway leading from Houston, Texas, to a growing industrial area.

ROADS all over the United States are being designed and redesigned to give the motorist the maximum of economy, speed and safety. Highway engineers and the general public have come to a realization that there are two important things to be considered in motor transportation: Adequate road improvements cost sizeable sums of money; the absence of these road improvements not only exerts a heavy tax on the car user and the taxpayer, but also hinders comfort and convenience and throttles business and prosperity. With these two thoughts in mind, large and small communities are no longer surveying the road problem with fear and trembling, but are proceeding with road projects in a fashion that would startle the citizenry of even a decade ago.

For instance, New Jersey is now constructing a 60-mile long superhighway, from the mouth of the Hudson vehicular tunnel at Jersey City to Trenton, which throughout its length will be protected from cross traffic. For 15 miles, from Jersey City to Elizabeth, the roadway will be five traffic lanes wide and from there on it will be 30 feet wide. Many separated grade crossings, whereby cross traffic will pass under the superhighway, will make this a thoroughfare that portends to be a model for

BUILDING HIGHWAYS FOR TOMORROW

By
E. E. DUFFY,
Chicago, Ill.

others in congested parts of the country.

Trend Toward Wider Highways

In the vehicles, width was quence; builders dimension considerations and near nities, are quite New York Chicago,

days of horse-drawn the matter of road of little consequence today, highway are giving this almost as much tion as length. In populous communities 40 feet wide common, with City, Milwaukee, Detroit, Los Angeles and others urging the construction of all

At Houston, a section of one outlet has also been built to this width. There is also a tendency to construct ordinary pavements to a width of 20 feet, rather than the 16-foot breadth commonly used during the early days of rural pavement building. In this connection a recent report of the United States Bureau of Public Roads states:

"The bureau's observations indicate that pavements less than 18 feet wide are decidedly too narrow since they provide no clearance for passenger cars or trucks operating in the usual paths. While the 18-foot width is apparently great enough for passenger cars in two-lane traffic, it is not quite wide enough for trucks. The 20-foot width gives ample clearance for trucks and is not excessive for automobiles."

Heavy Traffic Influences Design

Growing commercial traffic is having a direct effect on highway design. Big buses of high speed, hauling 20 or more

Wacker Drive—Chicago's Double Decked Highway

The movement of downtown traffic has been tremendously sped up by this project, which involved the acquisition of valuable property, the removal of buildings and the construction of this two-level street a mile long.





One of the newest methods for speeding up the movement of traffic is the elimination of highway grade intersections, an example being this Chicago project in Lincoln Park permitting traffic to move safely without interruption.

passengers, and great trucks carrying farm produce to the city and manufactured products from the city to the country, have tremendously increased the highway burden. This means that rural highways must be built with greater inherent stability. Once in a great while, criticism is directed at commercial car operators to the effect that they are destroying the highways and creating an extra burden for the rank and file taxpayer. This may be true to some extent, but it must be remembered that this commercial traffic is due to the desire and need of the public for quick service. Further, highway authorities point out that the construction of the substantial highways requisite for the maintenance of bus and truck schedules, and the efficient and economical operation of these vehicles, assure the public, as a whole, cheap and comfortable transportation.

Adequate pavements also permit of year-round use of the highways, which in the days of yore was impossible in both the North and the South, and in many instances is still prohibited by spring thaws in the North and wet spells in the South. In such cases as the extraordinary deluge of last summer in the Southeast, the road situation was little short of tragic in those communities having no pavements.

All such factors portend that tomorrow will see the hard surfacing of as many miles of rural highways as there are miles of railroads. This is quite logical in view of the indisputable fact

that even now there is more travel by motor car than by train. The railroad mileage in the United States is in the neighborhood of 250,000 miles. At present, there are scarcely 80,000 miles of rural roads that can be said to be improved to the point of minimum car operating costs and road upkeep costs. This means that there are still many thousands of miles of rural roads to be built.

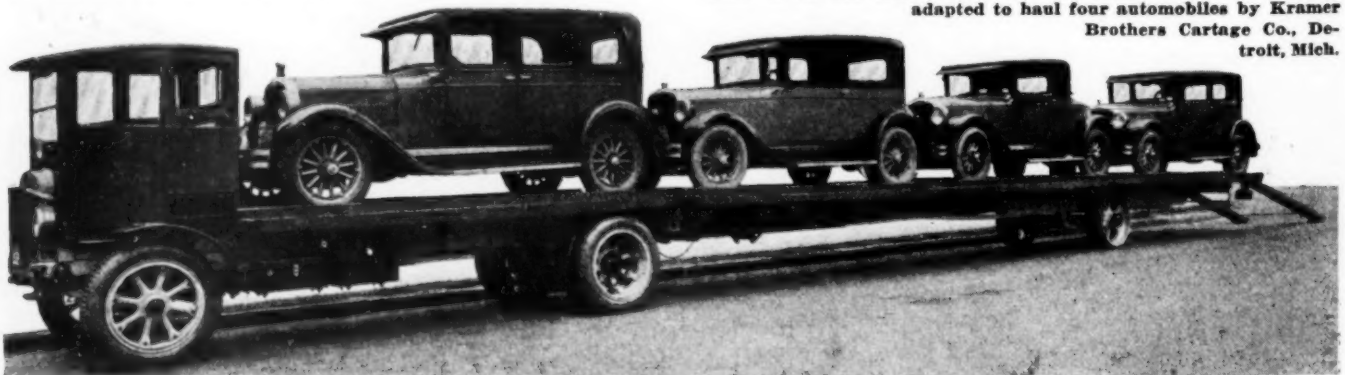
States Vote Huge Road Bond Issues

Indicative of what tomorrow will bring forth is the attitude of various States toward constructing roads on a wholesale scale through the bond issue method. In 1928, four States passed bond issues for State road construction calling for the expenditure of \$240,000,000, as follows: Iowa, \$100,000,000; Missouri, \$75,000,000; West Virginia, \$35,000,000; Louisiana, \$30,000,000. Obviously, to meet the "mass produced" automobile on an even footing, improved roads must be provided on the same basis. In view of the fact that well placed and well paved highways start earning dividends the moment they are opened to service, the marshalling of tomorrow's assured income through bond issues has proved its worth.

Indications are that 1929 will bring forth the passage of bond issues to an amount heretofore undreamed of. Texas alone is laying plans to pass a \$325,000,000 issue, the

money to be

A truck-trailer unit that provides 55 feet of loading space on a 60-foot unit. A 2½-ton truck made by the Autocar Co., Ardmore, Pa., adapted to haul four automobiles by Kramer Brothers Cartage Co., Detroit, Mich.



made available over a period of years. Other Southern States considering the adoption of bond measures are Georgia, Mississippi and Alabama. Impetus given by these bond issues will from year to year increase the rate at which high cost roads will be replaced by high type roads. Local communities will swing into line and soon the Southern States will find themselves possessing a social, industrial and agricultural development almost unprecedented.

Shorten Roads to Save Money

Naturally, with all this tremendous use being made of the highway, there has been a definite tendency to make roadways as straight as possible. In general, new pavement plans call for the shortening of the right-of-way through the elimination of curves and courses created in the days when surveyor's instruments were not a necessary part of road builder's equipment. Professor Agg of Iowa State University declares that where the travel is about 1000 cars daily each foot of distance saved in road length would justify an expenditure of \$60 for road shortening. This would make it desirable to spend over \$300,000 to shorten a road one mile. Desire to reach destinations in the shortest possible time and in safety is not only bringing about the elimination of curves and the proper banking of curves that cannot be cut out, but also the elimination of dangerous road, street and railway crossings. Relocations of highways have done much toward the avoidance of railway crossings.

Chicago has two separated street intersections in use in Lincoln Park, which permit traffic to proceed without interruption and with safety. This has been accomplished by elevating one roadway over the other.

Near Detroit the most elaborate raised street separation in the world will be completed this year. This is at the intersection of two superhighways—Michigan Avenue and Southfield Road, the former passing over the latter by means of two bridges, each 168 feet long and carrying a 40-foot one-way roadway and

a 10-foot sidewalk. Other overpasses are being planned for the Detroit area, which together with the several super-highways in service and under construction will warrant the continuance of Detroit's claim to the title of champion roadbuilder of the world.

Illinois will this spring build her first separated rural intersection, which will permit the constant flow of 60,000 vehicles daily on each of the two highways, Dempster street and Milwaukee avenue.

Highway Grade Separation Projects

At first glance, the cost might seem prohibitive, but highway engineers have proved that, where traffic is heavy, elevated road and street intersections are economical and necessary. It has been estimated, for instance, that one of the separations in Chicago has increased the traffic capacity of Lincoln Park by 300 per cent, which in effect gives three new highways. The ingenuity of highway engineers has also been turned in still another direction and double-decked streets portend to be quite common highway equipment of the future. Chicago's Wacker Drive, with its two levels, has aided downtown traffic immensely. This three-quarter mile long highway will be extended to give additional relief to traffic bound Chicago. Other double-decked arteries are planned for that city with one, extending to the west, quite likely to be a reality in the near future.

New York City is also going in for elevated roads. Work will soon begin on a six-lane wide highway extending along the Hudson River from Canal street to Seventy-second street and Riverside Drive. St. Louis is considering the construction of a double-decked river front development similar to that of Chicago, but with the addition of a spacious parking plaza.

One of the most important influences in modern highway building has been that of Federal aid. Through the high standards required by the Bureau of Public Roads, States have adopted the best available road building methods, shortened state routes, determined which roads are most in need of improvement through studies of traffic carried and, most important of all, many States have created state highway departments.

A fleet of buses operated by the Virginia Electric & Power Co., Norfolk, Va., supplied by the Twin Coach Co., Kent, Ohio. The body of the Twin Coach resembles a modern street car, and seats 40 persons and carries as many as 60 standees.



Entrance to double-decked portion of highway through Jersey City to connect with the Holland Vehicular tunnel under the Hudson River. It will continue from the city limits for 14 miles without a single intersection.

Through the leadership of the Bureau of Public Roads, much has been done toward the completion of an adequate nation-wide system of connection roads. At present, approximately \$75,000,000 is annually tendered the States through Federal aid and nearly half of this sum goes to help the States pay for first-class pavements.

What the future will bring forth in the matter of Federal assistance is a matter of conjecture, but for the time being it is expected that current expenditures will be continued. A number of bills sponsored by prominent individuals will be brought before early sessions of Congress in which increased Federal participation in road building will be asked. Particular stress is being placed upon the need for transcontinental routes and also for a number of North and South routes.

May Develop Toll Roads

Toll roads have been proposed as a means for obtaining adequate pavements for such routes and for connecting roadways between large cities, but as yet these proposals have made comparatively little headway. To say that toll roads are an impossibility in America would be somewhat reckless; perhaps, a toll road plan will evolve similar to that now being proposed in the conduct of toll bridges. The state or Federal government may issue bonds or notes with which to build these toll highways and levy small fees to road users until the road obligations have been paid off and

an adequate surplus for upkeep created.

Building Safety Into Highways

Interwoven in the highway story engineers and builders are now writing is the theme of "speed." That there is a demand for speed cannot be denied. Observation on any highway will reveal that. Not only do passenger cars scurry by at 40 miles or more, but buses are maintaining schedules that call for "hitting it up" at 50 miles. Uncontrolled speed, of course, is dangerous. As long as the motorist has complete control over the vehicle and can stop it before the nearest hazard is reached, fairly fast speeds are reasonable. Highway builders and the public are realizing that the automobile's chief attribute is its flexibility and "speedability." Consequently, roads are being designed so that something approaching full advantage of the automobile's capabilities is attained.

All this means that the future will bring forth many more thousands of miles of pavements, that highways will be built wider, that curves will be visible and properly constructed, that roads will be laid as much as possible on direct right-of-way, that railway grade crossings will be eliminated or protected, that double-decked streets will be found in all large cities, and that road and street overpasses and under-passes will be constructed in great numbers.

And all this will mean that prosperity will continue, for more than half the cost of a mile of pavement goes directly to labor, according to carefully made estimates.



Shall We Divert Gasoline Tax Revenue to Other Than Road-Building Purposes?

By

H. H. RICE,

Chairman, Taxation Committee,
National Automobile
Chamber of Commerce



New Bridge Across White River at Batesville, Ark.

Great bridges are being built costing up to \$11,000,000 each across the many important streams in the Southern States. In many instances they replace ferries; in others they eliminate circuitous overland routes. States and private enterprises are erecting toll bridges to meet the demand for these important links in highway systems.

Mr. Rice was connected with Col. Albert A. Pope at the time he was doing the work which led him to be called "the pioneer of the great movement for better roads." In recent years he has been identified with the General Motors Corporation, at one time as vice-president in charge of personnel, again as president of the Cadillac, and at present as assistant to the president. He is a member of the Board of Directors of the National Automobile Chamber of Commerce, its treasurer, and a member of its Highway Committee. He was chairman of the official delegation from the United States to the First Pan-American Congress of Highways at Buenos Aires in 1925, was a member of the official delegation to the Fifth International Road Congress at Milan in 1926, and during the past year was a member of the delegation which attended the meeting of the Permanent Road Commission at Paris in June when that organization was officially invited to hold its next sessions in this country.

TEN years ago the people of Oregon by initiative vote, imposed upon themselves a gasoline tax of one cent per gallon for the purpose of meeting highway costs. One month later North Dakota and New Mexico took similar action and 30 days later Colorado followed.

As 1929 opens, Massachusetts joins the ranks of gas tax states with a two cent levy and New York remains as the only commonwealth in the United States which has not at some time voted for this tax. Illinois has no gasoline levy because its Supreme Court has held the Act of 1928 unconstitutional but a number of legislative proposals are pending which have been drafted to meet the objections of the court to the earlier measure. So in a single decade, a direct sales tax enacted for the specific purpose of assessing part of the costs of road building against the users of the highway, has swept the nation and while it would be exaggeration to say the levy has been popular, since this term is never applicable to taxation, apparently taxpayers have found it more equitable than alternative suggestions of various kinds.

Tax Has Grown Rapidly

Not alone has the tax become almost universal in application but there has been a sharp increase in total amounts collected as well as a trend in the direction of increases in the levy per gallon. Thus an examination of the figures of the Bureau of Public Roads shows that in the first half of 1928 the total returns on fuel for motor vehicles amounted to \$140,500,000 in round figures which was collected on a net gasoline use of 4,652,-

000,000 gallons of gasoline taxed at an average rate of 3.02 cents per gallon. This amount is greater than the entire year's collection in 1921.

While final figures are not yet available for the second half of the year it can be safely estimated from data already available that the total for the year will be \$325,000,000 on a gas consumption of 10,700,000,000 gallons and at a rate of 3.02 cents. (U. S. Bureau of Public Roads weighted average June 30, 1928.) In passing it might be noted that the approximate grand total consumption of gasoline including Massachusetts, New York and five months of Illinois, amounted to 5,533,000,000 gallons for the first half of the year. The total for the year is expected to be around 13,000,000,000 gallons.

Four Increases This Year

During the first half of 1928 New Hampshire increased its tax to four cents and Virginia its levy to five cents. At the November elections Louisiana went from two to four cents per gallon in order to meet highway bond issue costs and Oregon, the state which initiated this type of legislation, increased its charge from three cents to five for the same reason.

It is interesting to note, however, that while seven states, New Mexico, Arkansas, Florida, South Carolina, Kentucky, Virginia and Oregon now assess a five cent tax, no state has gone beyond that amount and there appears to be little evidence that proposals for charges in excess of this figure are receiving serious consideration.

As a matter of fact the trend in states where tax returns are larger than in the ones mentioned seems to be to hold the amount around three cents, or less.

Levy Arouses World Interest

The comparative ease with which these taxes have been voted by the public has naturally focused wide attention on them. Fiscal experts from other countries have come here to study the several state statutes and there is a world-wide trend toward similar levies as is evidenced by recent enactments in Great Britain, Brazil and Uruguay, and by the interest which German economists have taken in the subject. It is not surprising, moreover, that our own legislators, constantly harrassed as they are by the demand for funds for a variety of purposes should from time to time be found advancing suggestions for diversion of these levies to other than road uses although most state laws specifically provide that these funds can only be used for road improvement. Thus far, however, these proposals have met with little favor on the part of the taxpayers. While the diversion today of gas taxes from state and county funds amounts to around \$10,000,000 annually, an analysis of these cases shows that only in three instances does the money go outside of road uses.

Few Cases of Diversion

In Florida something more than \$1,000,000 is devoted to public schools and a permanent building fund, while in Texas about \$2,300,000 has been diverted to a free school fund. Georgia placed

about \$500,000 in its general fund in 1928 and in the past has used these monies for the retirement of railway bonds. The only other instance of diversion occurs in Mississippi where gas funds have been used to build a sea-wall to protect a road which might be interpreted as a use of funds for highway purposes.

Among the suggestions heard now in legislative halls for further distribution are plans for further school building from gas taxes, creation of airport facilities, and further contributions to the general fund.

Taxes Accepted Only for Road Uses

Most of these suggestions overlook the fundamental principle which has brought about a public acquiescence in the gasoline levy but so long as state highway departments remain vigilant to their trust, there is little likelihood that they will escape public scrutiny. The fact is that the gasoline tax has been accepted by the highway using public as a fair yardstick for the measurement of their contribution to the costs of highway development.

Motorists generally are not unmindful that road improvements add greatly to land valuation and that everyone whether a car owner or not, shares in the benefit of better highways. Yet time after time this argument has been waived and car users have voted special taxes upon themselves. In so far as can be determined from the expression of motor club leaders this viewpoint prevails today, carrying with it but two provisos—the first, that these levies are special benefit taxes and consequently must be used for road building; the second, that they must be reasonable in amount.

This attitude was early agreed upon as sound and in the public interest, by the American Association of State Highway Officials, the Investment Bankers, the National Automobile Chamber of Commerce, and other motoring agencies, and it has the support today of economists and of the public generally.

Any further attempt to deflect gasoline taxes from specific road uses is certain to encounter strong opposition not alone as a breach of good faith but as a violation of what has proved to be sound public policy in a vast public improvement.

City and County Problems

There are two other aspects of the gasoline situation deserving of special attention from those concerned with the administration and development of our highway systems. These are found in the diversion of part of the funds collected by the states to cities or to counties.

From time to time, municipal authorities in various sections have sought a

return of gasoline taxes for city street improvements. In a very few instances, notably Baltimore where the tax collections comprise some 40 per cent of the total state returns, allowances have been made. Generally, however, these efforts have been successfully resisted by state authorities. As government studies have demonstrated, most of the traffic on our country roads is generated in the cities, and it is the city traffic which is largely responsible for our modern high-type road requirements. The city user should, and generally does, pay his share of the cost.

Traffic surveys by the U. S. Bureau of Public Roads disclosed the fact that from 88 per cent to 94 per cent of the passenger car traffic on the state highway systems of Ohio, Vermont and New Hampshire was of city origin. From 81 per cent to 89 per cent of the truck traffic was of similar origin.

Cities Need Rural Roads

No modern community can afford to be without a network of good roads connecting it with the adjoining country if it is to maintain a constant market for the wares which its people have to sell. Whatever gasoline taxes paid by city residents may be used for the construction of rural roads are more than compensated by the increase in effective cruising range and the decrease of operating costs. While there may be equity in the claim of taxicab operations and other motorists who may never leave the city at all, even these groups profit by the expansion of their business which comes from the more intimate contact with the country made possible by better communication. Further, the growth of metropolitan areas and the constant demand for by-passing or arterial gateways furnish improvements of direct benefit to city users, the cost of which will be largely borne from state funds. So well are these facts known that urban sentiment generally has stood strongly behind the use of city-collected funds for rural road improvement and there is no evidence of any change.

County Diversion Serious

The question of diversion of gasoline funds to the counties is more serious both in amount and from an administrative point of view, than has been the municipal problem.

Highway building began as a local enterprise and it was not until the advent of the gasoline propelled engine that there was any great necessity for the building of state-wide systems. Consequently the county unit preceded both the state and national administrations in the present structure of highway organization. For a long time the county commission was the dominant force in highway building and in many states it still

has large powers as a political group. The result has been that in many cases legislatures have enacted statutes which return to the county authorities specified percentages of the gasoline taxes collected by the state for use on county systems. Dependent in extent upon the type of commission involved, there are many evils involved in this practice. Obviously, the first effect is to retard the development of main state roads and until these systems are completed there is little excuse in reason for diffusion of funds.

Funds Not Used to Best Purpose

Beyond this, there is a more serious fault in the fact stated recently in a bulletin issued by the Bureau of Public Roads that not more than one-third of the counties of the United States have adequate highway engineering control or definite systems upon which their funds are concentrated. The waste that grows out of conditions of this sort, further magnified by the fact that the smaller the unit the greater must be the overhead cost, constitutes the weakest link in the chain of our highway expenditures. Two states where this system has been strongly entrenched in the past—Iowa and Kansas—inaugurated new policies at the November elections when by overwhelming vote, both gave sweeping control over highway affairs within their borders to the state highway departments. A third, Minnesota, flatly declined to depart from a similar policy and voted down resolutions calling for diffusion of the gasoline funds.

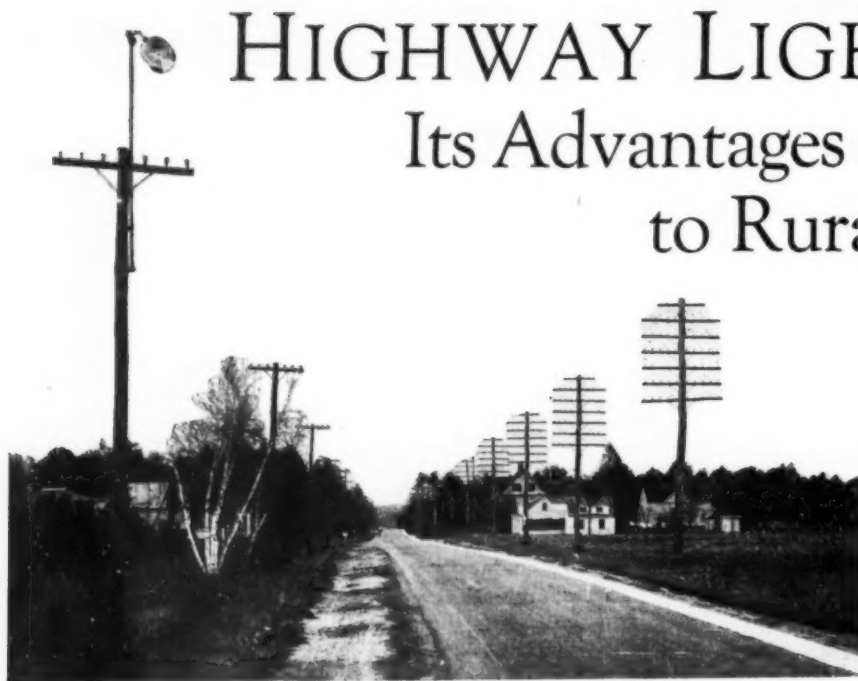
In some states the problem is reached by a state supervision of funds so returned. In others, movements have been undertaken to bring counties together into districts in order to co-ordinate their activities and to bring down the overhead. The question is one that goes outside the mere realm of gasoline tax diffusion since it involves the whole relation between state and county officials, but the gasoline tax is an important element because it constitutes a considerable percentage of the funds involved.

Use of Tax Watched by Public

Usually, public irritation at taxes grows out of their collection. In the case of the gasoline levy, it is apparent from this survey that as long as the rate is kept within reasonable limits, the sole question will be in the uses to which the tax is put.

Here is a case where the taxpayer pays a direct tax for a direct purpose. From the moment he leaves the filling station along the road, his eyes and other senses combine to tell him that he is or is not getting value received.

The gasoline tax puts the legislator and the road builder on trial with the public as judge, jury and prosecutor.



Daniel Webster Highway near Nashua, N. H., Lighted with 250 Candlepower Lamps

HIGHWAY LIGHTING—

Its Advantages and Relation to Rural Electrification

By

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General Electric Company,
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HIGHWAY lighting has come to the front again with added impetus. This is due, not only to the increase in volume of vehicular traffic and the increased number of miles of improved highway, but also to the growing importance of rural electrification.

The farmer has become a vital factor in the economic progress of the nation. His voice is a material factor in local communities, state legislatures, and the national congress. In view of these facts together with our natural desire to improve the condition of mankind, everything possible should be done to make his path easier, and his productive efforts more efficient. This can best be accomplished by bringing electricity to the farmer, through rural electrification.

Highway lighting systems constitute the most important and economical means of providing such service. In some states light and power companies will provide the pole lines and furnish the energy to the farmer at a minimum charge per month per mile. In other states, a certain percentage of the pole line investment is assessed to the farmer, plus a standard energy charge. The manner in which the farmer may pay for electrical energy varies considerably throughout the country. At present the cost of service to the farmer in some localities is rather high, and is not always justified by the results. On the other hand, if the pole line is already available, due to the previous installation of a highway lighting system, the cost of supplying energy to the farmer is much less, as approximately $\frac{1}{4}$ to $\frac{1}{2}$ of the cost of erecting such a line is assessed against the highway lighting system. In turn, the combination of rural lines and highway lighting

circuits results in a much lower cost for highway lighting than where the pole line is erected for the lighting system alone and such system has to bear the entire construction and maintenance cost. This is of advantage particularly when limited funds are available for lighting because the number of miles of lighted highway can be increased.

Financing Greatest Problem.

The greatest problem to be solved in highway lighting is the method of financing. In some sections of the country the property owners along the highways have paid for the lighting systems by personal subscription. Cities and towns have paid for the systems in other sections. In the Detroit territory over 375 miles have been lighted in this manner.

It is obvious, however, that the majority of cities and towns cannot afford such an investment although the need for adequate lighting is very great; and they have little interest in the lighting of highways between towns or city limits since the benefits to them are not so great as to the county, state or general public. Therefore, the states and Federal Government should aid in paying for the necessary lighting of these highways.

Favorable Legislation Passed.

The need for such aid has already been realized in Georgia and New York, and legislation has been passed allowing the counties to install highway lighting systems independently, or in conjunction with cities and towns. New Jersey has gone still further and has passed a law allowing the state highway department to authorize highway lighting on state highways. Ohio and Massachusetts are

considering state aid to cities and towns.

If the states would help in such a manner, possibly aided by the Federal Government, the cost would be negligible compared to the cost of road construction. Today it costs \$50,000 or more to construct a mile of highway and \$2500 a year, or approximately 5% of the construction cost, to maintain it (exclusive of lighting). The cost of adequate and proper lighting per mile of highway (including writing off the installation cost of the pole line and lighting system) varies between \$500 and \$750 per year depending on whether the pole line carries rural lines in conjunction with the lighting system or the lighting system alone. Thus the lighting cost amounts to 1 to $1\frac{1}{2}$ % per year of the road construction cost. If this is added to the road maintenance expense the total maintenance cost per mile per year is from \$3000 to \$3500, or 6 to $6\frac{1}{2}$ % of the road construction cost. There is no logical reason why highway lighting cannot be paid for as a part of or in the same manner as other maintenance. The additional funds required could easily be obtained by a small additional tax on each motor vehicle, by a small increase in the gasoline tax or by slightly increasing any of the other items which go to make up the state and county highway funds from which the road maintenance expense is obtained. Such an increase would be negligible compared to the benefits obtained, and would not be noticeable when compared to the amount spent for road construction and maintenance.

The political subdivision paying for the operation of the highway lighting system, regardless of the method of financing, would not be required to carry the initial investment of the pole line and accessories. Central stations or power companies would purchase and erect the equipment and charge a specified rate per mile per year for the operation, maintenance, etc., including a percentage for writing off the original investment. This is generally done by contract over a period of 5 to 10 years.

The problem of financing highway

lighting once solved will result in bringing electricity to the farmer. He will be able to obtain a greater return for the hours spent in labor by using electrically driven labor-saving devices. He will be able to enjoy the benefits of electrical household appliances and to conserve his produce by refrigeration and better control his market, tend to raise his standard of living and make him more content to remain on the farm.

Safety.

Highway lighting, however, will benefit others besides the farmer. The motorist, drivers of trucks and horse drawn vehicles, pedestrians and property owners, should all be interested in lighting, for the benefits to them are unquestionably great. Adequate lighting of highways will tend to prevent accidents, holdups and vandalism, add to the comfort and safety of night driving, increase the capacity of roads and enhance real estate values.

The prevention of accidents is becoming more important each day due to the increasing number of motor cars and trucks on the highways. It is estimated that 30% of the total accidents (both day and night) occur after dusk and 20% of these, or approximately 6% of the total accidents (both day and night), are due to insufficient or improper illumination of streets and highways. Assuming that one-half of these, or 3% of the total, occurred on the highways, the deaths due to improper or inadequate lighting in 1927 were 690, and the accidents approximately 18,000, involving an economic loss estimated at \$18,000,000. If this loss could be eliminated by spending the same amount of money for highway lighting, approximately 24,000 miles of highways could be lighted, with resultant additional benefits other than the prevention of accidents.

One of the causes of night accidents is the headlight glare. Although this has been partially remedied by laws in the various states, the results obtained have been far from satisfactory and the problem is still unsolved.

Convenience and Prosperity.

Together with its tendency to reduce accidents, highway lighting thwarts holdups and vandalism by lighting roads and fences as well as hedges. It also lights up vehicles left in the roadway, and is an aid in preventing them from being rifled of their contents and accessories. The comfort and security of night driving is increased by relieving eyestrain, by facilitating repairs to vehicles, by lighting directional signs at intersections, pedestrians, etc. The extension of pole lines along highways, especially near city limits, tends to extend towns along such highways; this increases property values, and the general prosperity of the community.

Increasing Road Capacity.

Highways built 10 years ago, or even five years ago, were intended for the accommodation of two to three lanes of traffic. This was thought to be sufficient to take care of the volume of traffic expected for many years to come. However, with a 50% increase in motor cars within the last five years, highways have become so congested that it is necessary today to either widen existing ones, build new ones much wider, or relieve the traffic congestion in some other manner. The expense of new highway construction is very great and sometimes prohibitive. To increase a 16 foot highway 50% would cost approximately \$20,000 per mile. On the other hand, the capacity of such a highway could be increased by adequate and proper lighting. If the same amount of money, namely, \$20,000 per mile, was spent for lighting, it would light one mile of highway for over 25 years. Highway lighting relieves con-

gestion by more uniformly distributing traffic over a period of 24 hours. The speed at which vehicles can travel safely at night is increased, which in turn increases the road capacity. The running time is cut down considerably, resulting in a saving to the owners of commercial vehicles.

With the advantages of safety, convenience and increase in road capacity, in addition to the benefits to the farmer, there is no question but that roadways must be and will be lighted eventually. Although the movement is slow, still the number of miles lighted is increasing each year. The active aid and interest of states and possibly of the Federal Government will give a great impetus to the installation of highway lighting systems. It is not too optimistic to conceive that within the next 10 years, instead of 1500 miles of lighting as at present, there will be 30,000 miles of highways adequately and properly illuminated.

Southern Road Contracts Awarded Last Year Show Increase Over 1927

THE valuation of contracts awarded for road, paving and bridge work in the 16 Southern States last year totaled \$254,695,000, according to a compilation of items published in the construction columns of the MANUFACTURERS RECORD. No attempt is made to estimate the cost of the scores of projects for which no cost figures are given, and it is conservatively estimated that the total valuation of awards for road and bridge work in the South in 1928 exceeded \$400,000,000. In 1927 the valuation of contracts awarded for similar work ran to \$241,507,500 and in 1926 amounted to \$248,379,500. Thus, it is definitely indicated that great as has been the expansion of industry and business in the section in the past five years, road and bridge construction has kept proportionate pace, and the aggregate expenditure for the five-year period, 1924-28, inclusive, exceeded the billion-dollar mark. Projects not included in the summary totals, because of the absence of authoritative, accurate figures, would swell the five-year total, representing valuation of

awards, by a very substantial percentage.

Out of a total of \$804,674,000, representing the valuation of awards for all classes of building and construction in the Southern States last year—but omitting individual projects involving the expenditure of less than \$10,000 and jobs for which no reliable cost figures were available, road and bridge work made up more than one-fourth of the amount, exceeding all other classes of work in volume and the amount of money involved.

While June led all the other months in the total of contracts awarded in 1928, with \$31,133,500, September claimed that distinction in 1927, when projects aggregating \$41,405,000 were contracted for. April stands second with awards totaling \$27,893,000, and August is third with a total of \$26,909,500 for this class of work. The December total of \$26,403,500 is the highest total for this month that has been attained to this time, and indicates that a big volume of new road and bridge work will get under way early this year.

COMPARATIVE RECORD OF ROAD AND BRIDGE CONSTRUCTION IN THE SOUTHERN STATES.

	Contracts awarded 1925	Contracts awarded 1926	Contracts awarded 1927	Contracts awarded 1928	Contracts to be awarded 1928
January	\$11,941,128	\$15,507,000	\$21,291,000	\$20,108,000	\$38,025,000
February	6,650,827	16,599,000	9,872,500	13,329,500	58,262,000
March	15,002,850	28,679,000	19,603,500	21,222,500	52,443,000
April	26,082,459	22,722,000	18,901,500	27,893,000	44,751,500
May	22,243,988	17,339,000	18,515,000	25,993,000	64,069,000
June	14,498,730	19,129,000	18,204,500	31,133,500	44,133,000
July	17,274,240	34,447,500	24,720,000	21,300,500	29,144,000
August	17,112,139	16,452,000	21,735,000	26,909,500	34,973,000
September	30,215,109	25,128,000	41,405,000	14,235,000	33,139,500
October	26,245,218	23,882,500	15,271,000	12,151,500	39,120,500
November	37,196,298	8,427,000	13,212,500	14,015,500	35,449,000
December	13,255,105	20,067,500	18,776,000	26,403,500	32,843,000
Totals	\$237,718,091	\$248,379,500	\$241,507,500	\$254,695,000	\$506,342,500

Country Homes for City Workers

By

WALTER PARKER,

Economist,
Fenner and Beane,

New York - - - New Orleans

"WHAT'S the matter with you—were you drunk last night?" asked the foreman of a weary-eyed workman.

"No, boss. The baby next door cried all night and I didn't get any sleep."

That workman lived in the congested area of one of our large cities, where rents were low enough to fit his pocket-book, and where thin walls, dense population, poorly paved and noisy streets and all else were in keeping with the "low rent." He was, and millions of his kind are, the daily and nightly victims of the short-sighted policy and short-range vision of the average American city which, while vigorously campaigning for more industries, does little to promote comfort and rest among the working classes.

Machines are compelling enlightened nations to think in terms of fewer hours of work, ample rest time, and longer hours for recreation and thought. Nevertheless, the modern American city has never given scientific attention either to the recreation phase or the rest phase of its workers' lives.

Noise ultimately breaks down the nervous system of even the most callous. Lack of sleep and rest and repose destroys efficiency. Labor employers now know these things. And as a result, great labor employing industries are developing model communities of their own. Self-supporting homes near the cities for city workers, have long been the goal of the homecrofters.

Smooth country roads and rapid transit by motor bus and car, electric light and power service, rural free delivery, telephones, radios and modern plumbing outfits, have brought the goal of the homecrofters within the range of the attainable.

Labor-saving machinery has reduced the hours of work, and will still further reduce them. Labor's goal now is the five-day work week. "What will labor do with its spare time?" is a question beginning to engage the attention of thoughtful business leaders. Will it use some of that extra spare time for real thought? If so, conditions of life in the densely populated areas in the cities will come in for early consideration. In such areas children are handicapped from the start. What chance for unbroken rest has the worker in such an environment?

Five, ten, twenty miles beyond the limits of the average city there are open spaces where half an acre costs less than one tiny city lot. Taxes are low. Cost of living is below that in the city. Transportation over smooth, well-conditioned, well-kept and uncongested coun-

try roads is swifter than by trolley car through congested city streets. A garden can be made to help out. A pig will pay dividends; a garbage can, never.

Soon we may expect suburban chambers of commerce to begin advertising the joys of home life *near* the cities. The cities will then counter by greater efforts to secure parks and playgrounds, shady streets and better—maybe noiseless—homes for the workers. Either way the average family will benefit.

Dr. George Otis Smith, director of the United States Geological Survey, declares that the problem of "spare time" has resulted from advances made by industry in harnessing power. And the harnessing of power is only in its early stage. America now produces much more per unit of man power than any other nation—so much more, in fact, that the problem of spare time is developing rapidly in spite of the waste that goes on every day everywhere in the land. Even the farm wife is being relieved of hand churning and hand washing, and the farmer himself is being relieved of hand sawing by electric motors.

Another generation will see the problem of spare time becoming really acute,

unless, meanwhile, a better understanding of the proper use of spare time be developed among the people generally.

We have not yet fully discounted the time and labor saving factor of the telephone, the telegraph and the railroad, and now we have the airplane and the radio.

Thus far we have used our genius in the development of machinery and power for the translation of raw resources into the articles needed by man. In the future we will employ some of that genius to check waste of raw resources in the larger sense.

Some day every man will have time enough not only for the making of a living, for rest and for recreation, but for thought. Thereafter, the United States will be a better place in which to live.

Just about the first result of thought by the workers will be the desire for repose, for quiet, for fresh air, for flowers, and for open spaces for their children. Inevitably, that will lead—in fact, it is now leading—to the desire for homes *near* the great cities. Smooth roads, motorbuses, telephones, radio, electric lights and power, modern plumbing, and nearby schools have given pith and moment to the age old desire of man to own "a self-supporting home on the land."

A changed environment has at last begun to make effective the old dream of the homecrofter.



An Up-to-date Country Highway Near Tarrytown, N. Y.

Modern country highway building calls for two things—a pavement must be laid and this pavement must be wide enough to comfortably accommodate the traffic it is forced to bear.

White Heavy Duty Truck With Trailers.

Trailers are being used in steadily increasing numbers for a wide variety of purposes, drawn either by truck or tractor units. This truck-trailer train is operated by the Humble Oil & Refining Company, of Houston, Texas.



The Motor Truck and Bus Industry

By

WALTER C. WHITE

President, The White Motor Company,
Cleveland, Ohio

IN a little more than a quarter of a century the automobile industry, of which the production of motor trucks is an important branch, has grown from nothing to the country's greatest industry and it is still growing.

According to the 1925 census of manufacturers the automotive industry ranks first in the United States, the wholesale value of motor vehicles being \$3,371,855,805. Twenty-three million odd motor vehicles were registered in the United States in 1927. This is 78 per cent of the twenty-nine million odd motor vehicles registered throughout the world during that year.

The motor vehicle industry in this country has an invested capital of over \$2,000,000,000. It gives employment to over 4,000,000 persons. Wages paid annually amount to more than \$585,000,000. The automotive industry is the third largest railway shipper of manufactured articles. Motor vehicles today rank third among the commodity exports in the United States: Fifty-three thousand odd dealers are engaged in marketing its product.

Automotive Dollar Is Worth More

It is highly significant that the purchaser of automotive equipment gets more for his dollar than he does in pur-



chasing any other commodity with the possible exception of electricity. The automotive dollar is worth \$1.07 today

while the cost of living dollar is worth only 61c compared with 1914.

Motor trucks are in excess of ten per cent of the motor vehicles registered in this country. In 1927 there were 2,896,886 motor trucks registered in the United States. Their uses are numerous and varied.

Annual truck production in the United States is 487,653 having a valuation of \$431,649,521.

Over 5,000,000 motor vehicles of which 598,654 are motor trucks are owned and used on farms; a half million children are transported daily to school in motor buses; 367 street railways are using motor buses; 157 steam railroads are using motor trucks on short line hauls; the milk supply of numerous cities is largely handled by motor trucks. Live stock rides to market in a motor truck. Motor trucks build, maintain and keep clean the streets of a city. They solve the garbage problem. They are busy in the oil fields, in the mines and in logging. They deliver from wholesale to retail stores and to their respective customers. They even provide a pulpit for the trav-

Parlor Observation Coaches Extensively Used.

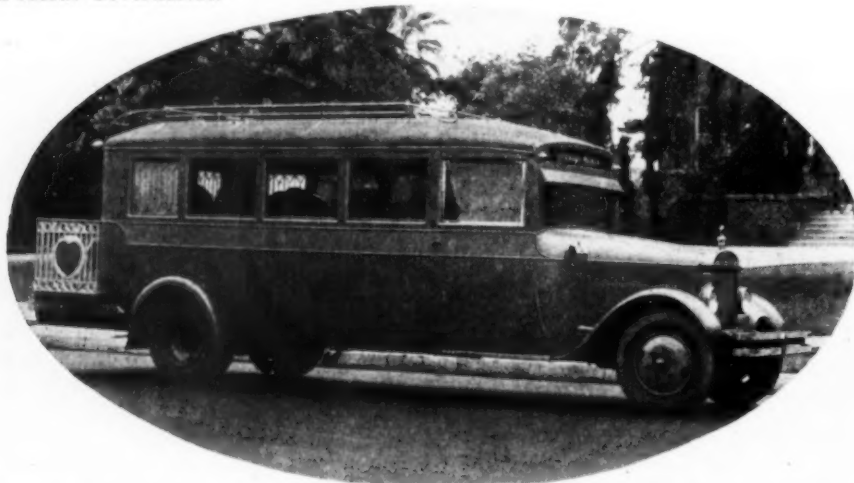
The rear compartment is elevated above the forward compartment and baggage space is provided in an enclosed lower compartment at the rear.



eling evangelist. From the handling of the raw materials of the field, the forest and the mine, to the education of the child and the religion of the adult, it is more difficult to point out instances where motor trucks are not used than it is to enumerate their thousands of uses.

Motor Vehicle Taxes \$760,000,000 Annually

The special taxes raised from the motor vehicle last year amount to over \$760,000,000 and already pay a major part of the rural highway bill of the nation. These taxes include personal property taxes, gasoline taxes, registration fees, drivers' licenses and other special taxes of the same nature. In connection with road building it is interesting to note that the total expenditure that has been made by the Federal Government on State-Aid highways is only 45 per cent of the special excise taxes collected on motor vehicles by the Federal Government.



A 1 1/2-ton 4-cylinder model Autocar used to transport guests from the railroad station to Los Angeles hotels. Buses are widely used for this purpose in the South.

Relation to Other Carriers

The growth of the motor truck naturally met with the opposition of established carriers. In that respect it is no different from the development of any other means of transportation. Early in its history the industry itself concluded that there need be no material competition between the motor truck and the other established means of transportation, railways and waterways. The question involved was rather one of finding the exact place for the motor truck in the transportation system of the country. It is remarkable how rapidly that idea of the motor truck has grown. The national associations representing the motor vehicle industry, the electric railway and steam railway, have met in conference and agreed upon the principal fundamentals of the correlation of highway, railway and waterway transportation. These principles have been accepted by the business interests of the country



Part of fleet of Fageol double-deck buses in use in local service in Atlanta, Ga.

through their national organization, the United States Chamber of Commerce. The electric railways have established motor bus lines as feeders and as exten-

sions to their own lines, and in a number of cases are profitably operating such motor bus lines parallel to their rails. The electric railway through the use of the motor bus as a corollary to its street cars, found a new customer, the passenger who previously had ridden in his private conveyance. The steam railways found that they could operate motor trucks to replace peddler trains for the handling of l. c. l. freight, for the relief of congestion in their terminals and in present experiments with store door delivery. Trucks with unit containers are used at the Cincinnati Railway Terminal, 76 per cent of the freight handled being interchanged between different railroads and 24 per cent between main and substations of the same railroad. This system has been in operation since 1917. More than 200,000 tons of freight are moved by motor trucks employed at the Cincinnati terminal during a year. The system reduced the movement time of freight an average of 52 hours, decreased the cost of handling 35c a ton, released 15 per cent of platform space for other use, released some 200 freight cars from continuous trap-car service and eliminated 300,000 switching operations annually.

The Pennsylvania Railway and other rail carriers are using motor trucks profitably in hauling l. c. l. freight.

Through this use of motor trucks by other transportation systems the animos-



Buses of this type produced by the Twin Coach Corp., Kent, Ohio, embodying many novel features in design and equipment, are being used in many transportation fields.



A White truck with special built van body to handle V. D. Chocolates in and around Baltimore.

ities between carriers are rapidly being dissipated. Co-operation is replacing antagonism. It is becoming generally recognized among other carriers that the motor truck has its place, not in competition with, but as a corollary to railway and waterway transportation and its own particular service to perform within restricted mileage limits.

Management of Motor Truck Lines

Owners of motor trucks, by better management of their equipment, are rapidly improving the position of the motor truck in our transportation system. Operators are learning by experience. They are giving more forethought to transportation instead of slipshod afterthought. These operators have found the formula—better cost systems; complete records that tell the story by truck, by load, by mile, by day; better care of equipment; better selection and education of drivers; better routing in order to eliminate truck idleness; picking the right type of truck for the right job; adapting their premises to motor transportation. Great savings are being effected by these intelligent users of

motor trucks who have found that efficiency goes hand in hand with economy. The owner does the thinking and the



Buses alongside Baltimore and Ohio Railroad trains at the Jersey City Terminal. Buses of this type transport passengers to and from New York and Brooklyn hotels and stations established by the railroad.

motor truck does more work. A standing truck loses money. The test of a truck is the mileage it covers earning money.

Motor transportation is being built into factories, warehouses and even office buildings. Better management of transportation corrects delays in moving merchandise. It appreciates the proper use of highways—and the mistake of overloading and over-speeding which is an abuse of the road as well as of equipment.

Economies of Motor Truck Transportation

The rapid growth of motor truck transportation has been due to economic reasons. America's cartage bill for trucks and horses in cities and towns alone probably exceeds one billion dollars per year. If it is true, as claimed by statisticians, that approximately two-thirds of every dollar spent for the purchase of goods goes to the support of our distribution system, so that it costs approximately 65c to get 35c worth of food or other commodity from the pro-

ducer to the consumer, and if it is a fact—as reported by the Joint Committees of the Sixty-seventh Congress on Marketing and Distribution—that “we have now reached a point where it costs more to distribute and serve than it costs to produce,” it is not difficult to understand the growth of motor truck transportation for economic reasons. Authorities estimate that about 50 per cent of perishable farm produce in the United States rots on the ground because of the farmers' inability to get it to market.

Out in the Central West, hogs are now being trucked to market instead of being driven, and it has been found that they have been walking off more weight in dollars than it cost to carry them.

The motor truck has conclusively demonstrated its ability to reduce costs in the handling of freight over short distances and in the handling of l. c. l. freight in the saving in the cost of pack-



An International truck used as a “rolling store,” typical of the expanding field of truck operations. Trucks are now being fitted with electrical refrigerator units to haul perishables long distances.

ing, of transport to and from terminals, and in reducing the congestion and cost of operating terminals in large cities.

Biggest Asset in Saving of Time

It is the saving of time that saves money in transportation. The value of commodities constantly in transit in the United States is over one and one-half billion dollars. If the average time in transit of all shipments could be reduced one day it would result in a saving of approximately \$20,000,000 in interest charges alone.

The strides made by motor bus transportation in recent years have been even more phenomenal than the rapidly expanding use of the motor truck. The motor bus bridged the gaps in the transportation of 1928 by carrying more than four and one-half billion passengers.

They performed a job that the railroads and other forms of transportation couldn't do; they developed new fields and revitalized old fields, earned money and saved money, directly influencing the life of the American family.

Established motor bus routes in the United States now cover more than twice the mileage of steam and electric rail lines combined. In the space of a few years the bus has become one of the country's major transportation facilities.

There are now 635,609 miles of fixed route covered by bus lines as against 279,094 miles of steam and electric lines. One may now travel across the continent by motor coach—from Maine to Frisco Bay or from Spokane to the Florida Keys.

The millenium of transportation is not here. But the strides toward it have been so tremendous and are being made so fast that the picture changes overnight. No one needs preach in favor of individual transportation—for today there are more motor vehicles in this country than telephones.

Motor vehicles brought hard roads and they put the stage coach out of business entirely. We still have some toll roads and some canals. But the motor vehicle—including the passenger car, the motor bus and the motor truck—was found able to do a better transportation job. Hence the truck and bus fit naturally along with railroads into the modern scheme of transportation.

Buses and trucks are being used by steam and electric railways in co-ordination with rail lines. They are being used by independent operators in competition with rail lines. There may be isolated cases of waste, but the general effect is decidedly better transportation for the public.

It is going to be even better. For I think the railways—steam and electric—could use the motor vehicle more, and eventually will use it more than they do.

Some ninety thousand buses are in

operation in the United States, the majority being owned by independent operators. Electric railways in 1928 ran approximately 9000 buses, more than twice as many as in 1926 and carried more than 1,000,000,000 passengers. Seven years ago sixteen electric railways had 73 buses.

Of the 367 electric railway companies now operating buses, 49 operate 264 buses over 482 miles of route in localities where electric service has been entirely abandoned. In addition, 237 electric railway companies already have substituted buses for 3020 miles of track.

At the beginning of 1928 a total of 44,486 buses were being used in the nation's common carrier service; 35,876 coaches were carrying school children.

The total investment in bus line rolling stock, terminals, garages and other facilities amounts to approximately \$500,000,000. Total gross revenue to common carrier bus lines amounts to more than \$325,000,000 annually. Motor bus operators in 1927 paid taxes of \$16,000,000.

Sightseeing and tourist buses have more than doubled the last two years with nearly 3500 in operation, about 400 of them in New York City alone, and more than 600 in the national parks.

Buses have entered new fields, furnishing transportation where none existed before. They also have entered old fields and have opened new sources of revenue. These new sources, as developed principally by buses operated by steam and electric railways, are cultivated not alone through extensions and feeders, but tap districts where transportation previously was meagre or non-existent.

A new class of rider, whose name is legion, has appeared to patronize bus lines that parallel street car lines. This is true both in inter-city service and city service. Traffic congestion and parking difficulties are causing many people to ride in buses instead of in their own automobiles; most of these used to drive their own machines rather than take the street cars.

The place of the motor truck and bus in transportation is limited only by the development of improved highways and the building of improved highways must go forward because, as tersely said by our greatest highway authority, "It will cost more to do without the transportation service which can be supplied through the building of highways than it will cost to build and maintain them."

The motor truck and bus are great economic factors and steadily will become more important in reducing the cost of distribution and bridging the gaps in transportation as the work progresses of correlating all our transportation agencies into one co-ordinated system by placing the motor truck and bus in their proper spheres by forethought instead of as an afterthought.

Scientific Plan of Systematic Highway Improvement Adopted

What is believed by many authorities to be the most scientific plan of systematic highway improvement yet developed for the environs of a large city is described in detail in a report just published by the County Commissioners of Cuyahoga County, Ohio, in co-operation with the Bureau of Public Roads.

The 10-year plan of improving highways to cost \$63,000,000 in Cleveland and its tributary area in Cuyahoga and adjoining counties, includes the construction of new through routes to join disconnected sections of present highways; the development of belt highways around the city; the widening of many present routes, the construction of a viaduct over an industrial section to provide a direct approach from the south to the center of Cleveland, the building of several bridges over the river valleys which have heretofore imposed serious obstructions to direct traffic flow, and other extensive changes.

A mass of data was produced by the survey concerning the average and maximum density of traffic on all important highways, the origin and destination of traffic, the most direct routes for larger traffic movements, and the causes of habitual departure from such routes where it was found that the movement was not following the direct route. It also shows the habitual speed of traffic and conditions influencing speed and causing congestion, such as grade crossings, street car tracks and loading platforms and traffic lights, the convergence of heavily traveled highways; the width of pavement required to accommodate various traffic densities; the possibility of establishing new routes which would relieve congestion on present routes and which would provide more direct communication between various areas.

In recent years, the outward movement of population from Cleveland has caused a rapid growth of the suburban section. At the time of the survey there were 49 small municipalities in Cuyahoga County alone, in addition to Cleveland, Lakewood, East Cleveland and Cleveland Heights.

Upon agreement that authorities in the whole area, including those of seven counties and of the 49 municipalities of Cuyahoga County, would co-operate in carrying out a 10-year plan of highway improvement, based upon a detailed survey of present traffic and estimated future traffic, the bureau decided to make such a survey in co-operation with those authorities and also with those of the State Highway Department.



Bridge Over the San Jose River, Picada de Varela, Department of San Jose, Uruguay

SOUTHWARD HO!

An Outline of Proposals for an Inter-American Highway, and What Is Being Done About It

By

PYKE JOHNSON,

Executive Director, Pan American
Confederation for Highway Education,
Washington, D. C.

SOME day in the not far distant future, when the family is making its plans for the annual vacation tour, Young America is going to stand up and deliver an ultimatum to the effect that, having seen this country first, he or she or both of them now desire to travel abroad.

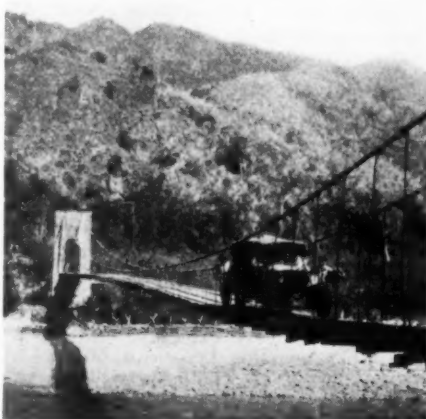
Whereupon paterfamilias will turn to his emergency file and will produce the map of a new road. Unrolling it, he will suggest that this time the family not only go South, but that it keep on going South, through Texas, through Mexico, Guatemala, Salvador, Honduras, Nicaragua, Costa Rica—on to Panama, through lands of amazing scenic contrasts, of strange people, strange customs and strange languages.

When that day comes—and "it won't be long now"—it will mark the dawn of a new and significant era of intercontinental relations from which the peoples of both Americas may expect large returns both in better understanding and in trade growing from improved systems of communication.

Thus far no actual survey has been made of the distance which our family will have to travel to go from Laredo, Texas, to Panama but figures compiled from the records of the Department of Commerce and the Pan-American Union indicate that the route will be about 3,500 miles or about 300 miles farther than from New York to San Francisco.

Out of this total, 1,500 miles lies in Mexico and this much, the chairman of the Mexican Highway Commis-

sion has recently stated, will be open to traffic within two years. Of the remainder, there is 1,000 miles of terrain



One of many suspension bridges on the road from Tarma to La Merced, Peru

over which there is no road at present and another 1,000 which can be driven by motor either in dry season or all the

year around. Guatemala, Salvador, and Panama are virtually traversable now.

More important than the total figures, however, are the statements of men who have gone by motor, on foot, or on horseback along the proposed route that nowhere in all the distance is there any physical obstacle to be overcome any more difficult than those which have been vanquished along some parts of the route already. In fact, barring an inconsiderable mileage, the chief reason there is no road in certain sectors is found in the fact that the population at these points is sparse and the urge in the past has been for an Atlantic-Pacific gateway rather than for a longitudinal road.

The vista which the proposed road lays before the mind's eye of the traveler is one of diverse and engaging interests.

Given a highway of this character, the traveler up the West Coast will be able to disembark at Panama, take a bus or automobile to Guatemala and travel from there via train if he desires to the United States, cutting days from his schedule. New and more intimate contacts with South America of advantage to all will result.

New markets will be provided for the numerous raw materials of the Central American countries and the flow of tourists into these areas will provide them

with new and sure means of employment and wealth. As these are developed there will be calls upon our country for various articles of commerce and so a new series of economic cycles will be set up.



Nuble Bridge at Cocharcas, Chile.



Mexico-Pachuca Road near Pachuca

While attention for the moment is concentrated on the upper sector as the one which promises early fulfillment, actual construction on the Texas-Panama road will have its reaction on the road builders of the countries of South America, and before the first part is completed it is reasonable to suppose that several of the long legs in the road from Panama to Santiago to Buenos Aires to Rio to Panama, will be completed.

In fact, while the proposal for an Inter-American highway as such is largely in the discursive stage, much has been already done. Brazil has opened a 1,000-mile link from Rio to Montevideo which can be made if the motorist will take to the beaches for part of the distance. Colombia has cut the time from Bonaventura to Bogota by three days, by opening a new link. The road from Valparaiso to Santiago, Chile, is open. There is a fine stretch from Laredo to Monterrey, Mexico.

For the most part these roads have been built as local or national rather than as international projects and in fact there has been some disposition to oppose opening routes across frontiers. Now, however, economic pressure and the

desire of people in both Americas to see new sights is working and the stage is being set for action of a very positive nature.

Perhaps the first definite evidence of practical activity on a matter which has been discussed for years came in 1924, when at the invitation of the Highway Education Board, a group of engineers from the several Latin countries of the Pan-American Union came to the United States to make a survey of highway transportation and to see what could be done to provide for road communication between the two continents—North and South America.

During their visit these men spent many days in Maryland, in Virginia and North Carolina, inspecting roads and then moved on to Minnesota via Kentucky and Illinois, returning to New York by way of Wisconsin, Michigan, Ohio and Pennsylvania. En route they met many leading Americans, including President Coolidge who spoke of the need of transportation as a basis for cultural and economic advance as well as a means of improving Pan-American unity.

Note here Mr. Hoover's words, which had a prophetic note particularly inter-

esting in the light of subsequent events. He said:

"For many years, for perhaps half a century, the engineers have carried a dream in their minds that they might some day have a railway from Canada to Tierra del Fuego. That dream is much more likely of realization and is certain of realization through the development of the great new form of transportation by automobile, for through that we will have the extension of our road system to that point where we shall have at last and in reality, and in not many years, real communication between all the nations of the American continent."

Following this survey, Argentine issued an invitation to the countries of the Union to meet at Buenos Aires in the first Pan-American Congress of Highways. President Coolidge named Herbert H. Rice of Detroit, Mich., as chairman of the United States delegation and associated with him a distinguished group in the persons of Thomas H. MacDonald, chief of the United States Bureau of Public Roads; Frank Page, North Carolina; Charles Babcock, Minnesota; and Dean A. N. Johnson, University of Maryland, all noted engineers; Congressman W. E. Hull of Illinois, and Dr. Guillermo A. Sherwell, late secretary general of the Inter-American High Commission.

This mission followed the route which Mr. Hoover has taken more recently and everywhere found a growing and cordial interest in the question of better highways and improved communication both within and between the various countries.

Both at the Pan-American Congress and at the International Conference of American States at Havana, resolutions were passed endorsing an Inter-American Highway project. As a result, in November the Pan-American Union by formal resolution called upon the Pan-American Confederation for Highway Education—an outgrowth of the Latin engineers tour, headed by Dr. Leo S. Rowe—to take up the question of an actual survey of this route with the



Highway Between Pan de Azucar and Piriapolis, Uruguay

presidents and governments of the several countries affected. Accordingly, Dr. Rowe has laid the subject before these officials who have the subject under consideration now.

Meanwhile, President Coolidge has taken an active personal interest in the question as is demonstrated by his reference to it in his talk at Havana and in subsequent messages to Congress. He sums up his viewpoint in his last message as follows:

"In my message last year I expressed the view that we should lend our encouragement for more good roads to all the principal points on this hemisphere south of the Rio Grande. My view has not changed. The Pan-American Union has recently endorsed it. In some of the countries to the south a good deal of progress is being made in road building. In others engineering features are often exacting and financing difficult. As those countries enter upon programs for road building we should be ready to contribute from our abundant knowledge to make their task easier of accomplishment. I prefer not to go into civil life to accomplish this end. We already furnish military and naval advisors, and following this precedent we could draw competent men from these same sources and from the Department of Agriculture.

"We should provide our southern neighbors, if they request it, with such engineer advisors for the construction of roads and bridges. Private interests should look with favor upon all reasonable loans sought by these countries to open main lines of travel. Such assistance should be given especially to any project for a highway designed to connect all the countries on this hemisphere and thus facilitate intercourse and closer relations among them."

At the last session of Congress, the Committee on Foreign Affairs under the leadership of Dr. Stephen Porter created a sub-committee especially to deal with this problem, with Congressman Cyrenus Cole of Iowa as chairman, and Dr. Henry W. Temple, Pennsylvania, and



Highway to Cocales, Guatemala.

David J. O'Connell, New York, as members. This committee reported out a measure asking the President to direct the several departments of the government to co-operate with Latin countries in formulating plans for an Inter-American highway and the bill was promptly passed in both Houses.

This year Congressman Cole has gone a step farther and has introduced a bill providing for an appropriation of \$50,000 to be expended when requested by the several Central American countries in co-operation with them, in an actual survey to determine the feasibility, cost and economic effects of the construction of a longitudinal highway.

Hearings will be held shortly and so keen is the public interest in this question that the author of the bill anticipates early favorable action on his proposal.

Meanwhile, Senator Oddie of Nevada has introduced another bill now pending, which would give the President authority when requested to send engineering advisors to the southern countries as recommended by President Coolidge.

So we come down to the present situation in which the government of the United States may be pictured as standing by ready to co-operate with the Cen-

tral American republics as and when they indicate they want co-operation in preliminary steps looking forward to the actual construction of an Inter-American road. How soon actual work on the survey will begin will depend therefore on the answers received by the Pan-American Confederation. It may be that some countries now have the needed data. Others may prefer to make the studies by themselves. But since interest here has grown out of the several actions of the Latin representatives, it may be expected that whatever course the central countries prefer to follow, our attitude will be one of acceptance and co-operation.

There are few engineering projects remaining in the world today more stimulating to the imagination than this one. Public interest in our neighbors to the South has been tremendously increased by the good-will voyage of President-Elect Hoover.

An opportunity to see the land of Montezuma, to traverse the trails of the buccaneers of pirate days, to trace the footsteps of the Incas, is sufficient to stir any motorist. And in the wake of the southward-questing flivver will come new opportunities for all people in both Americas.



Concrete Road Between Sayade and Colon, Uruguay

Manifold Benefits of All-Weather Roads

By

WOOLSEY FINNELL,

Highway Director, Alabama State
Highway Department,
Montgomery, Ala.

THE benefits that accrue to a State or a community from a system of highways that can be traveled at any and all times of the year are many and varied. In fact, by examining the steps by which this country has reached its present state of progress in both physical wealth and mental attainments one will find that good roads have been and are the foundation and support of many phases of our national progress.

As soon as a community is supplied with adequate roads agitation is started to consolidate the small rural schools into a central institution and to transport the students in buses. A good road well maintained is absolutely essential for the successful operation of this method of education.

An all weather road is possibly of greater benefit to those engaged in agricultural pursuits than any other class. It provides them with an easy access to markets which under other conditions would not be available. A farmer living on a highway that is impassable during the rainy months is unfortunate to say the least. The price of his product depends on the weather and if he attempts to diversify he may be caught with a goodly amount of seasonable truck and a market so limited that he will have to stand a loss. The education of his children is retarded and the chances are that the school they attend is one of the now obsolete one-teacher type. His social life is limited to very narrow lines and unless he is of a very cheerful and optimistic temperament he may turn into a sour and disappointed individual. On the other hand, let us look at the condition of the farmer living on an all weather road, when he has anything to sell he can very nearly pick his market or at

least have the choice of several and it is certain that he can get his produce to town at any time that it suits him. He can diversify his crops, raise seasonable truck and venture out into the dairy business with the certainty that the fruits of his toil will not spoil on his hands because of a lack of transport. A bus comes around each morning and carries his children off to school and brings them back in the afternoon. If after the evening meal he and his family desire to enjoy some recreation he is generally within a 20 or 30 minute ride of some town where this recreation can be had. In case of sickness he has the factor of time greatly in his favor. He has more neighbors and friends and has a greater opportunity for the observation of methods and practice and the chance to compare them with his own.

Where you have groups of people prevented by physical conditions from commercial and social intercourse with each other you will generally find a tendency to narrowness of viewpoint and suspiciousness of people not of their immediate

vicinity. This condition is very well exemplified by the mountain people of some of the Southern states. This condition has been greatly improved during the last decade by the coming of improved roads leading into the hills. The mountaineer now goes down into the valley towns and has realized that much good can come out of the lowlands. Means of transportation and communication that are available at all times are indispensable for the development of a nation. To have unity each section of the country must know enough about the other parts to be able to show a true sympathy and understanding when questions arise affecting any certain section of the country. The millions of tourists who are continually traveling our highways are helping greatly to bring about an understanding between different parts of the nation.

Waterpower development in Alabama has been going forward by great strides during the last few years. This increase in available power has attracted many manufacturing companies to the State. These companies have as a rule constructed their plants at or near the smaller cities of the State that are served with all weather roads. There is a reason for these locations. If a mill is served by a good road the congestion in living conditions about the work will

be eliminated, for the workmen have available a large residential area with a corresponding improvement in living and health conditions. In some cases the majority of the labor can be drawn from the people living in the vicinity of the plant and thus reduce the investment in the mill by making it unnecessary to construct the usual mill village. Operatives may live in rural sections or nearby towns.



A Well Maintained Texas Gravel Road

Highway Policy Should Look to Future

Thomas H. MacDonald, chief of the Bureau of Public Roads, in his recent annual report to Secretary of Agriculture Jardine, said "The studies of the flow and growth of highway traffic

made by the bureau in recent years have emphasized the fundamental importance of careful present consideration of future needs in re-establishing the location and planning the structure of our highways.

"The design of motor vehicles has been so perfected that speed considerably in excess of former possibilities can be attained without increase of hazard so far as the vehicles themselves are concerned. The remarkable developments

that have recently occurred in the design and use of common-carrier buses are probably no more than the beginning of a much further development that is to occur in this form of conveyance. Traffic congestion, until recently a serious problem only in the cities, has moved outward and now imposes its time-consuming delays and menace to life and property upon the principal highways in the vicinity of large metropolitan centers."

Problems of Highway Transport Regulation

By

ALFRED H. SWAYNE,
Vice-Pres., General Motors Corp.

Mr. Swayne graduated from Yale in 1892 and read law. After corporation and railroad practice he became legal advisor of the North American Trust Company in Cuba. Returning to New York he became secretary of the Bankers Trust Company and later Treasurer, when that company was consolidated with the Atlantic Trust Company. Subsequently he was a member of the New York Stock Exchange firm of Tailler and Robinson, retiring to serve in the United States Treasury Department, Liberty Loan and Federal Reserve activities, during the War.

In addition to being a director and vice-president of General Motors Corporation, a director of General Motors Export Company, Chairman of the Board of General Motors Acceptance Corporation, Mr. Swayne is vice-president of the National Automobile Chamber of Commerce, a director of the National Safety Council, director of the American Exchange Irving Trust Company, Lehigh Valley Railroad and the Long Island Railroad.

ON January 1, 1928, there were approximately 3,000,000 motor trucks and 85,000 buses engaged in the transportation of freight or passengers on the urban and rural highways of the United States.

Of the motor trucks—

82 per cent are privately owned and used for the distribution of commodities to their final destination.

11 per cent are owned by contract carriers who haul for only a few customers.

5 per cent are owned by contract carriers who accept business from any shipper, but who do not operate over fixed routes or on definite schedules.

It is an interesting sidelight that the National Automobile Chamber of Commerce estimates that 1,900,000 trucks be-

White 6-cylinder motorbus operated in Florida by the Seaboard Airline Railway, which recently extended its motor coach service in this territory.



long to as many individual operators. The same authority estimates that 59 railroads own or are interested in the operation of about 5,000 trucks.

In the bus field—

36,000 are used to transport school children.

35,000 are owned by independent or non-rail common carrier operators.

9,000 are owned by the electric railroads.

1,000 are owned by steam railways and affiliated groups.

The above figures for both trucks and buses are partly estimated, but may be accepted as accurate for the purpose of this discussion.

Regulation Problem Confronting Users

The rapid development of highway transportation has created many new problems, among them the question of whether the vehicles, and/or the trans-

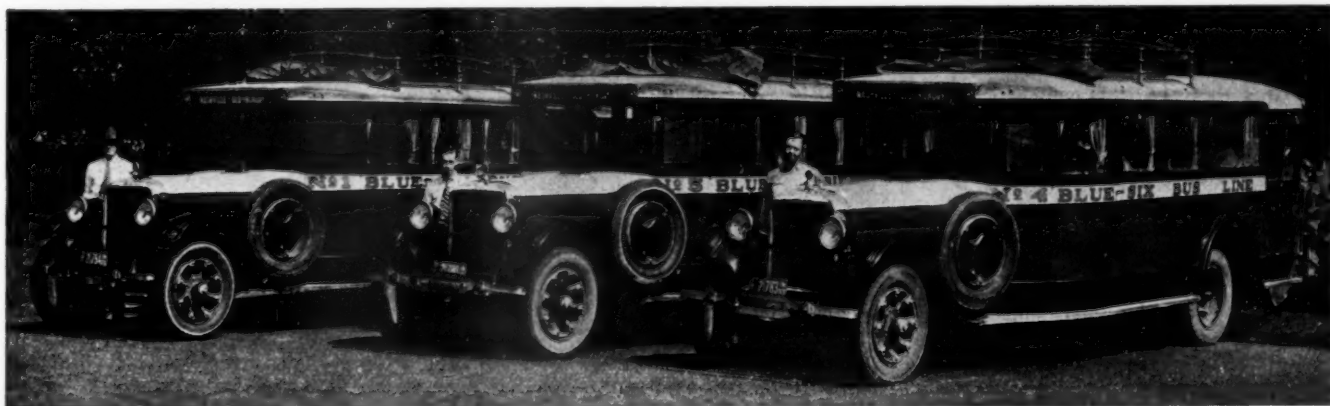
portation business in which their owners are engaged, should be regulated, and if so, to what extent and in what manner they should be regulated.

There has been a general acceptance of the principle that all highway transportation units should be under the police power of the states in so far as the protection of life, limb and property is concerned. While details differ, all states now have such laws, and there is no evidence of a desire on the part of the operators to oppose reasonable control.

When, however, it is proposed to regulate these vehicles as agencies of transportation, we find a difference of opinion as to what regulation, if any, is necessary or desirable.

No Public Demand for Truck Regulation

During the nation-wide investigation made recently by the Interstate Commerce Commission to ascertain the scope



Three 22-passenger Studebaker parlor observation cars operated by the Blue-Six Bus Line, Nashville, Tenn.



Yelloway-Pioneer Motor Coach Operating Between New York and San Francisco

Long haul transportation by motor buses is growing at an astonishing rate. The system has 9,000 miles of line, and the operating method is not unlike that of a transcontinental railroad. There are operating divisions, reserve coaches, regular schedules, stations, etc.

of highway transportation, the testimony of virtually all the interests represented, aside from the railroad group, was against regulation of the truck.

Without going into details, which are available from government records, the evidence was to the effect that shippers generally, wanted to be left free to use the truck, as they had used the horse and wagon in the past. No doubt because of this attitude, when the question of regulation came before Congress at its last session, the attention of the committee was focused upon the subject of bus regulation. Truck regulation was mentioned, but never seriously considered, if the record of the hearings is a fair criterion.

Question Is One of Federal Control

The question of bus regulation is the subject of most immediate interest to those concerned—whether passengers or operators. Most of the states now regulate the bus in intrastate movements. There is no interstate regulation because the Supreme Court has ruled that the state regulatory bodies have no control over interstate commerce. Consequently, buses carrying passengers solely in interstate commerce are, at the moment, unregulated.

As long as the vehicles meet the police requirements of the states through which they pass, with respect to speed, weight, and other safety factors, any man can set up in the business as and when he desires to do so.

It was this condition which prompted the railroad and public utility commissioners, representatives of the older transportation groups, and some of the bus operators, to join in a request upon Congress for legislation.

Bill First Discussed in 1926

In 1926 the Interstate Commerce Committee of the Senate considered a bill introduced, by request, by Senator Cummins of Iowa. This measure would have regulated both trucks and buses. It was

supported by the several groups already mentioned on the ground that:

(1) An intolerable condition was raised because motor vehicle common carriers were permitted to operate unregulated in interstate commerce.

(2) It was unfair to existing agencies of transportation to allow such unregulated vehicles to compete with agencies which were subject to regulation, and

(3) As to buses—established bus operators asked for regulation to protect them from unregulated casual competitors.

Opposition to the measure consisted of—

(1) A sharp attack on the motor truck provisions by shippers and operators alike.

(2) Suggested amendments as to the form and the extent of regulation proposed in the bill. The variety and number of these suggestions for amendments indicated that there was no general agreement as to bus regulation.

Local Bill Fails of Approval

Congress failed to approve this measure and the next effort was a bill introduced by Senator David Reed and Congressman Isaac Bacharach, the effect of which would have been to regulate motor buses operating in interstate commerce

through the Hudson vehicular tunnel or over the Camden bridge—both of which structures were then in course of construction.

The argument in favor of this measure was that an emergency, due to congestion, would result if unregulated use of buses was permitted. The opposition denied that any such emergency would exist, and appealed to Congress not to enact legislation of this type in advance of the report of the Interstate Commerce Commission, which had then completed its survey, but had not yet digested the evidence.

This bill passed the Senate, but failed in the House after hearings.

Concurrently, Congressman Denison of Illinois introduced a bill which has been described as identical with the Cummins Bill, except that it eliminated truck regulation. Later Congressman Parker, of New York, introduced his bill, and it is on the provisions of this measure that discussion of the subject is centered today.

Hearings were held on the Parker Bill in April of last year, and a sub-committee named to consider what should be done with it. No action was taken by the committee as a whole.

Some Form of Bus Regulation Generally Approved

In the last hearings, however, a summary of the testimony indicates a general agreement on the part of virtually all who testified, including representatives of the steam, rail and bus operators, as well as the motor car manufacturers and the railroad and public utility commissioners, that regulation in some form is desirable.

The disagreement as to the form and extent of regulation was, however, very marked. Without going into the details, which are contained in the 300 or more



A Two-Room Cottage on Wheels

Built for the Tampa (Fla.) Electric Co. by the Farnum-Nelson Co., Boston, Mass., this traveling bungalow on an Autocar chassis demonstrates the usefulness and compactness of the modern electric home, displaying 36 electrical devices.

pages of testimony taken by the Committee, it developed that the older transportation agencies joined by the utility commissioners and a part of the bus operators, wanted the motor vehicle immediately subjected to much the same regulation as that imposed on the rail operators.

In addition to securing certificates of public necessity and convenience, rates would be fixed, schedules laid down, cost accounting provided—in other words, complete regulation.

It was also the rail attitude that the interest in existing transportation agencies should be given special consideration whenever applications for certificates were made.

The chief opposition came from the motor vehicle manufacturers and some bus operators. This group stated that they were in accord with Mr. Ralph Budd, president of the Great Northern Railroad, who is one of the largest motor bus operators in this country.

Mr. Budd's position was outlined in an address in New York, from which the following essential extracts are quoted—

"The first question to determine is whether highway buses are desirable. If they are, care should be taken in outlining regulation of them so as not to strangle the industry instead of protecting it, and it should be allowed to develop and become reasonably stable before too much is attempted in the way of detailed regulation.

"The ultimate extent of highway bus development depends first on whether the public will consider the service important enough to adopt toward it a fair, reasonable, and above all a definite and stable policy of regulation and taxation.

"There is no question but that the motor bus will become a more important factor in local passenger traffic and that the motor transport business will be a permanent and substantial institution if there is accorded it a recognized, definite and stable policy based on fair and reasonable regulation and taxation.

"It seems to me that the public would get most for its money if all regulation of all carriers of commerce would leave the managers of the transportation agencies as free as possible in their operation. Individual initiative is so desir-



Paris Transit Concrete Mixer Unit for Delivering Concrete Direct to the Job

Made by the Transit Mixers, Inc., this truck-mixer has been extensively employed on the Pacific Coast and is now being introduced in the East. It is said to have all the advantages of a central mixing plant and will serve any job on which concrete is used.

able that it should be encouraged, especially during the development period.

"Intrastate commerce comprises such a large part of the total commerce carried by motor buses that their regulation should be left to the state authorities as far as possible. The problems for the most part will be local, even though companies may operate across as well as within state boundaries.

"The requirements of a certificate of necessity and convenience for interstate operation really seems to be the only pressing necessity for any federal regulation."

The motor manufacturers pointed out that motor bus operations are not comparable with rail operations, and held that regulation of the type now applied to railroads would result in strangulation of the bus as an agency in transportation. They further insisted that there was no public demand for such regulation and that unless and until it did develop, the public interest would be best served by permitting as much freedom of operation as possible until the bus had found its place.

Whatever regulation was imposed they contended should be adopted solely from the point of view of the public's need for highway transportation services, and should not take solely into account the

desire to protect the rail interest.

Discussions Continuing

There the subject rests in so far as legislation is concerned.

Since the hearings before the Interstate and Foreign Commerce Committee, however, there have been further discussions of the subject in the press and between the interested groups.

Meanwhile, the older transportation agencies are gradually going into truck and bus operations and as they do, a better understanding of the uses of these vehicles is becoming apparent.

There still remain, however, a good many questions of fact which must be settled before the relationship of the motor vehicle to other agencies of transportation is fully understood, and it is entirely conceivable that as these facts are developed, the views of all groups with respect to regulation will be considerably modified.

The summary which introduces this article, shows clearly that the truck and bus are today major elements in the transportation problem of this country and prompts the writer to suggest to his readers that they give consideration to the following questions—

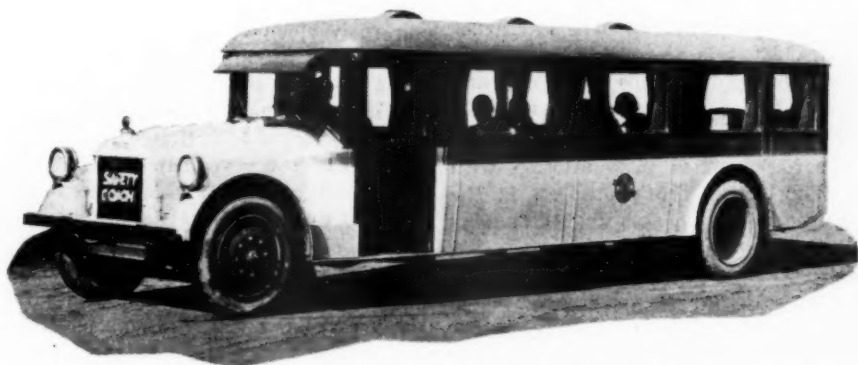
Public Interest in Highway Transportation

How can highway transportation best be co-ordinated with the existing systems of rail and water transportation to the advantage of these agencies and the shipping public?

To what extent can highway transport relieve the rails of non-profitable, less-than-carload and short haul movements, and unnecessary, but very costly terminal operations?

Who will profit from lower cost, more flexible, more scientific, co-ordinated rail-water-highway transportation?

After all, these are the paramount



A Type of Bus Widely Used

Reports for the year just ended show that 9,900 buses are used by 365 street electric railway companies, 1,250 buses by 67 steam railroads and that 14,850 buses are operated to transport pupils to and from consolidated schools.

questions from the standpoint of the public and only when the answers to these questions are found can Congress hope to enact legislation which will promote the public interest.

The old maxim "Make haste slowly" is a prudent guide in a field of activity as closely allied to economic and social progress as is transportation, and prompts me to quote, in part, from Commissioner Woodlock's comments when he concurred in the findings of the Interstate Commerce Commission on Docket 18300 (Motor Truck and Motor Bus Operation)—

Regulation Should Proceed With Caution

"Regulation is not in itself a good thing, I have been told by many railroad men that they have some doubts about it themselves, as to how much good it is for them.

"The less regulation that is necessary, other things being equal, the better off the community. It is necessary in the case of public service utilities because of their semi-monopolistic nature. Transportation in general is not per se of such nature. Transportation by railroad is.

"Transportation by motor bus and motor truck does not necessarily depend upon the monopolistic or semi-monopolistic organization or performance. It is manifest that at the present time these services are much more largely of a competitive than of a monopolistic nature. For that reason the need for regulation except in so far as it concerns the public safety, is not wholly clear.

"This being so, regulation should proceed with caution, and only in response to demonstrated needs. The great complexity of modern life has already compelled the centering of enormous power in regulatory bodies such as this Commission. I do not view with satisfaction extension of the province in which that power is exercised, save only under clearly demonstrated necessity for such extension. Hastening slowly, it seems to me, is the only safe policy to be followed in matters such as those dealt with in this report. Let experience teach us."

Roads Chief on Regulation of Transportation

Or, in closing, to quote another authority, Mr. Thomas H. MacDonald, Chief of the U. S. Bureau of Public Roads—

"Regulation of all public transportation agencies in the interest of the public is necessary and sound, but we have been thinking and acting in terms of restrictive regulation and to do so it is necessary to evaluate all the factors. From the public viewpoint it will be accepted that each type of service must be permitted to develop in the field in which it can best function.

"Thus, it is fully as probable that the railroads are over-regulated in a restrictive sense, as it is that other forms of transportation are under-regulated. The facts ought all to be developed."

Good Roads Bring Better Fire Protection to Rural Communities

By

M. COOK,

Vice-President,
Boyer Fire Apparatus Co.,
Logansport, Ind.

owners who were taxpayers in the town and who suffered fire loss with no apparatus available because the only fire truck was on a country run.

NOT many years ago, practically every farm owner knew that a fire on his farm meant the total destruction of his buildings. He realized that it was impossible for him to have the benefit of fire protection, as road conditions were such during the major portion of the year that fire apparatus could not get to his farm even if any were available nearby for that purpose. How different this is today in many sections. With the building of improved roads, one of the chief benefits that might be termed a by-product of the good roads movement is the great reduction in loss through fires on our farms. Michigan is one of our leading states in practicing rural fire protection. There are now more than 80 installations of fire apparatus, the prime purpose of which is the protection of rural districts. Ohio has more than 50 installations of what are termed: "Community Apparatus." Illinois has nearly 50; Wisconsin has about 40, and Indiana has about 20. Iowa is getting well started and has nearly 20 community fire trucks. A few of our other states are making progress along this line.

This rural fire protection has only been made possible by reason of our good roads. A telephone call for the rural fire apparatus will bring it to the fire nearly as quickly as a fire truck can answer a fire call in the outlying districts of any town or city, and at that the rural trucks are not driven at excessive speeds. When you realize that the trucks are invariably given the right of way on country roads, you can appreciate that it only takes twelve minutes to go 8 miles driving at 40 miles an hour and the apparatus is ready for immediate fire fighting as soon as it reaches the fire. That is as quickly as a truck can go a couple of miles in the city and hook up to the hydrant and be ready to turn on water.

The big problem in connection with providing rural fire protection is the procuring of apparatus and arranging and maintaining and operating it. At most recent State Firemen's Conventions, the paramount subject for discussion was how to handle calls to fight fires in the country. A great many of our towns have only one piece of apparatus and there is risk in letting that one piece leave the corporate limits. There have been damage suits started by property

The fire chief and his boys do not want to turn down any call from a farmer whose buildings are on fire, but they are governed by local ordinances, insurance rulings, and in other ways. Laws have recently been enacted in a few of our states that provide means for procuring rural fire apparatus, but this is only true in a very few states.

There are a few fire apparatus manufacturers who have developed plans whereby community apparatus may be obtained, these plans varying with the different companies, but all being based on the town paying a portion and the farmer subscribing towards the purchase price of the apparatus. A committee of the National Fire Waste Council is now endeavoring to formulate what they consider to be an ideal law that will provide a means whereby apparatus can be obtained for rural fire protection and it is hoped that this law can be prepared in time to introduce into the various State Legislatures that will be in session this winter.

Insurance can be carried, but the losses on rural risks have been so heavy that a great many companies have discontinued writing that kind of business. In communities where apparatus is available for fighting rural fires, the experience of the mutuals operating in those districts has been a considerable reduction in losses and, therefore, a considerable reduction in the cost to each insurer. A great many instances can be cited of the effectiveness of rural fire apparatus and the dollars and cents saving in various communities; however, this can all be summarized in the statement that has been made after thorough investigation that in no instance where rural apparatus is available has a farm fire ever spread beyond the one building, and in every instance where the call has come in quickly for the apparatus, the loss has been kept within the insurance carried.

There can be no greater farm relief than cutting down the farmer's fire losses, which is possible by the organizing of rural fire companies whose services can now be so very effective by reason of our improved system of highways open the year round.

Résumé of Road-Building Activity in the Southern States

Great Bridges Feature the Section's Highway Development Program—Year-Round Highways Result from Continuous Maintenance—Big Volume Road and Bridge Work in Sight

CONTINUED advance in the development of good roads throughout the South in 1928 and plans for increasing the momentum in the year to come form two of the brightest bands in the rainbow of promise for this section and, indeed, for all the country. Possibly, a little conservative in its start on this new line of enterprise, the South later plunged into the movement with enthusiasm and confidence, the magnitude of the aggregate projects being such as to generate apprehension that the pace could not be maintained. On the contrary, the pace has been accelerated, and each succeeding year brings vaster projects, based largely on the beneficial results of work already done and on systematic and economical methods which have developed from experience and from the ingenuity of road builders and implement makers.

So it is that records for 1928 detail the

expenditure of millions of dollars each by individual States and hundreds of millions, directly and indirectly, in the South as a whole. And so it is that plans for 1929 and subsequent years disclose programs for the expenditure of hundreds of millions more—and the great work may be said to be only started.

The true meaning of this work and the expenditures is too wide for consideration in detail and only the high spots can be touched. The acquisition of property is a first step, and the surveying and grading and filling along the routes form the second. Cement, sand and gravel, asphalt and tar, stone and lumber and other materials are purchased in prodigious quantities. Scores of varieties of road building machines and implements are required for the work, ranging from the pick and shovel to the huge road roller. Employment is provided for thousands of men.

\$4,700,000 Expenditure for Maryland Roads Last Year.

By JOHN N. MACKALL,

Chief Engineer, Maryland State Roads Commission, Baltimore.

During 1928, Maryland spent approximately \$4,700,000 on road construction. Of this amount, \$635,000 was derived from the Federal Government and \$4,065,000 from State and County bond issues and the two cent tax on gasoline for lateral road construction and grade crossing elimination. About 145 miles of new roads were constructed, consisting of 106 miles of concrete, 7 miles of macadam, 29 miles of gravel, and 3 miles of asphalt streets in Baltimore City. In addition, 35 modern concrete structures were built, replacing narrow one-way bridges, and 2 railroad grade crossings were eliminated.

From the additional two cent tax on gasoline, \$4,200,000 was derived for maintenance and reconstruction work generally throughout the State. From this sum, approximately 100 miles of narrow improved roads were further improved by widening with concrete shoulders, and 500 miles of macadam and gravel roads were surface-treated in addition to the general maintenance work.

One of the outstanding projects in the concrete shoulder program was started during the summer of 1928 when the Baltimore-Washington Boulevard was widened for a distance of approximately four miles north from Laurel. The width of the road was increased from 20

feet to 40 feet by the construction of a 10-foot concrete traffic lane on either side of the existing road and the old section was resurfaced with asphaltic construction. It is planned to ask the 1929 Legislature for a bond issue sufficient to complete this widening from the Baltimore City limits to the District of Columbia line. It is estimated this will cost approximately \$1,600,000 and will require two years to complete.

The sum of money available for road work during 1929 will be determined by the General Assembly of Maryland, which convened on January 2, 1929.

\$16,000,000 Oklahoma Highway Awards Last Year.

By CLARK R. MANDIGO,

State Highway Engineer, State Highway Comm., Oklahoma City.

No important legislation went into effect during 1928. The Legislature meets in January, 1929. There is considerable talk about increasing the amount available for highway construction in Oklahoma, to be financed either by State bond issue or an increase in the gasoline tax. Funds available from natural sources at present amount to about \$12,500,000 per year of which approximately \$2,500,000 is spent on maintenance, the remainder on construction.

We recently completed a new road census and an outstanding fact is that our traffic is increasing much more rapidly than the funds available for road construction. Census taken at the same

points on State highways unpaved in 1927 and paved in 1928 show a concentration of traffic on roads after they are surfaced; that is, the traffic increases at a greater rate than it normally would, should the road have remained unpaved. It is evident that additional funds from some source, possibly a State bond issue, will have to be provided in order that the construction will keep pace with the increased traffic. Several counties voted bonds during the past year for highway construction and most of them turned at least a portion of the money over to the State to be matched with State and Federal money. In several instances the State could save considerable money by building the roads without any assistance from the counties for the reason that counties have formed a practice of making a road map prior to the election and promising the people that in the event bonds are voted the roads will be located exactly as shown on the road map, going so far as putting a clause to this effect in the proceedings relating to the bond issue. Thus, when the county money is turned over to the State the State and Federal Government are expected to acquiesce in these locations, even if the mileage and cost are both materially increased. This leads to an embarrassing situation with the State for the reason that if the State returned the counties' money the county would be unable to spend these funds because it has been stated in the bond issue that the funds will be matched by State or Federal aid.

Statistics compiled for the Biennial Report covering the years 1927 and 1928 indicate that formal award of contracts for road and bridge work are as follows:

	Miles	Cost
Bridges	3,748	\$3,801,610.30
Concrete pavement..	213,901	5,136,295.95
Asphalt pavement..	85,286	2,358,512.19
Grading and drainage	800,137	4,262,964.58
Gravel	152,710	243,003.65
Brick	3,923	139,733.74
Miscellaneous	0,500	8,464.00
Total	1,260,205	\$15,950,584.41

The incompletd State highway work carried over to 1929 is as follows:

	Miles	Cost
Bridges	2,831	\$1,003,352.13
Concrete pavement..	66,201	1,474,582.63
Asphalt pavement..	54,915	1,442,237.51
Grading and drainage	310,716	1,777,252.02
Brick	4,792.75
Total	434,663	\$5,702,217.04

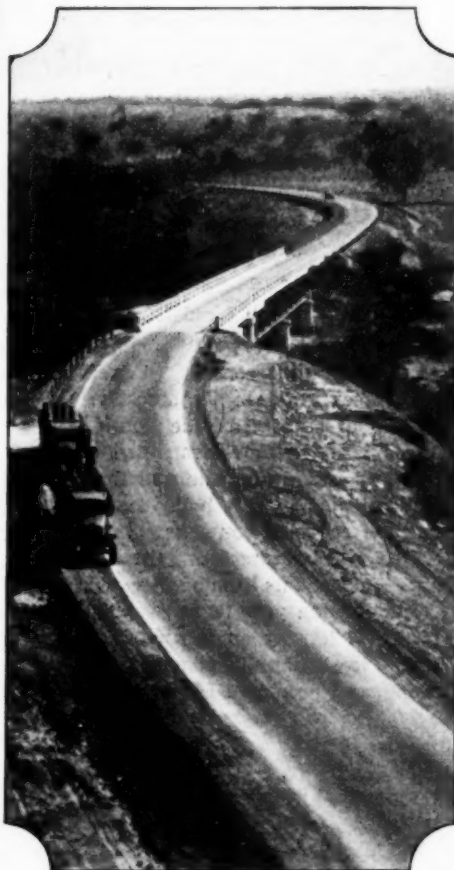
New State highway work proposed for 1929 is approximately as follows:

	Miles	Cost
Brick	5,000	\$180,000.00
Plain concrete.....	70,000	1,500,000.00
Rock asphalt	60,000	1,800,000.00
Maintenance gravel.	150,000	300,000.00
Grading and drainage	400,000	2,000,000.00
Bridges	4,500	1,600,000.00
Miscellaneous	10,900	140,000.00
Total		\$7,500,000.00



Left—A cement-concrete pavement in Limestone County, Alabama, with wide, well-kept shoulders.

Below—Asphalt pavement between Seminole and Wewoka, Okla.

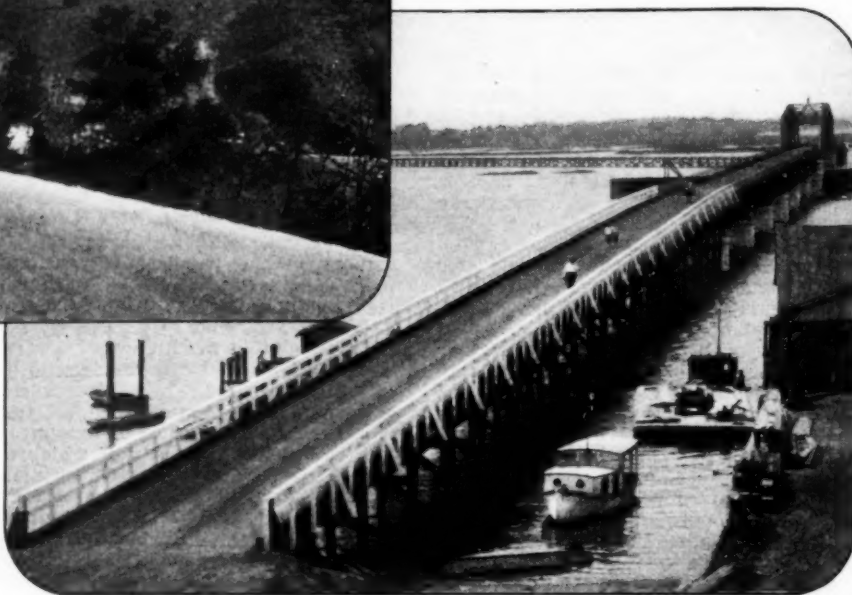


Oval—A fresh oiled chert road in Lawrence County, Tennessee, on Route 6, just south of Rockdale.



Above—A carefully maintained road in a mountain section of Virginia.

Right—A type of bridge built in many sections of the South—the Beaufort-Ladies' Island Bridge, Beaufort, S. C.



Right—Brick pavement in Fort Smith, Ark., one of the fast-growing cities in the Southwest.

Below—A concrete highway on United States Route No. 61 in Jefferson County, Mo.



Oval—A section of the Baltimore-Washington Boulevard near Laurel, Md., widened by the building of two concrete shoulders, thereby providing for 4 lanes of traffic.



Above—A sand-clay road in Florida, typical of many roads similarly constructed in the Southern States.

Left—A gravel road with calcium chloride treatment on Blair Mountain in Logan county, W. Va.



Over \$10,000,000 Expenditure Last Year for West Virginia Roads and Bridges.

By A. J. MILLS,
State Road Commission of West Virginia,
Charleston.

During 1928 West Virginia completed on its State road system a total of 339.15 miles, and is carrying over into 1929 a total of 82.04 miles. The total sum paid out for road and bridge construction on the State system during the year, including both new work and work carried over from 1927, was \$7,634,408.24. For maintenance, the total expenditure was \$2,585,777.13.

Prospects for 1929 are bright, due to the fact that an additional bond issue of \$35,000,000 was ratified by the voters in November. The program for the coming season depends upon the action of the Legislature which convenes in January for a 60-day session, but it is anticipated that approximately \$10,000,000 of the proceeds of the new bonds will be made available. With this money, added to Federal Aid and other funds bringing the total for new construction to approximately \$12,000,000, the rapid progress of the last five years will be continued.

A little more than \$3,000,000 was available for new contracts in 1928, and the new work placed under construction totaled 150.31 miles, besides eight bridges. The new road contracts included 82.3 miles of grading and draining, 1.49 miles of gravel, 19.17 miles of bituminous macadam, 23.26 miles of concrete, 2.32 miles of rock asphalt, 3.07 miles of brick, 3.7 miles of waterbound macadam, 14.75 miles of shale, and 15.00 miles of stone base.

The completions, which included considerable work carried over from the previous year, were made up of 148.00 miles of grading and draining, 35.99 miles of gravel, 3.07 miles of waterbound macadam, 46.12 miles of bituminous macadam, 38.75 miles of concrete, 2.32 miles of rock asphalt, 2.97 miles of brick, 19.78 miles of shale, and 41.52 miles of stone base.

Work carried over into 1929 includes 49.89 miles of grading and draining, 1.49 miles of gravel, 9.16 miles of bituminous macadam, 6.5 miles of concrete, and 15.00 miles of stone base.

Among the accomplishments of 1928 was the completion of the Cotton Hill cut-off, which eliminates a narrow, dangerous road over Cotton Hill, in Fayette County, and the ferry at Kanawha Falls. An essential part of the work was a bridge over New River, 800 feet in length.

The last railroad grade crossing on the National Road in West Virginia was eliminated by the construction of an underpass at Elm Grove, a suburb of Wheeling. One of the larger bridges completed during the year was an interstate structure across the Potomac at Paw Paw, Morgan County, which was built jointly by West Virginia and Maryland.

County road work completed during the year was approximately as follows:

Grading and draining, 205 miles; gravel, 56 miles; bituminous macadam, 26 miles; concrete, 20 miles; stone base, 29 miles; bituminous concrete 18 miles. The total cost of this work was approximately \$5,700,000.00. County work, on a somewhat similar scale, will be continued in 1929.



Surface treated lime-rock road in Florida.

\$10,580,000 Expended by Georgia in 1928.

By R. E. ADAMS,
Office Engineer, State Highway Board of
Georgia, East Point.

An estimate of work completed during 1928 includes: Graded, top-soil, and sand-clay—58 projects, 381 miles; chert, gravel, and macadam—31 projects, 169 miles; limerock with asphalt top—6 projects, 28 miles; gravel with asphalt top—6 projects, 55 miles; macadam with asphalt top—3 projects, 19 miles; asphalt paving—15 projects, 86 miles; concrete paving—16 projects, 65 miles; timber bridge—1 project; concrete bridge—8 projects; bridges and approaches, 2

miles; total of 755 miles costing \$10,583,197.45.

Work carried forward into 1929 includes: Graded, top-soil and sand-clay, 451 miles; gravel, chert and macadam, 58 miles; limerock with asphalt top, 70 miles; macadam with asphalt top, 11 miles; asphalt paving, 147 miles; concrete paving, 82 miles; timber bridges and approaches, 3 miles; concrete bridges and approaches, 1 mile; total 823 miles costing \$11,452,560.33.

Route 25, the Coastal Highway from Savannah through Brunswick to the Florida line, was completed during 1928; also, Federal Route No. 1 from Augusta to the Florida line was practically completed during the year, a north and south Route from the Tennessee line through Atlanta to Valdosta and the Florida line was either completed or put under construction.

\$20,000,000 Highway Program for Louisiana in 1929.

By J. M. FOURMY,
State Highway Engineer, Baton Rouge, La.

Louisiana road construction for 1929 is approximately as follows: 400 to 500 miles of gravel road construction to cost about \$3,000,000; 250 to 300 miles of high type pavement to cost approximately \$7,000,000; bridge construction, \$2,000,000; maintenance of 7000 miles of highways, \$5,000,000; overhead, \$500,000. In round numbers our program for this year amounts to approximately \$20,000,000.

The total expenditure for construction and maintenance during last year is estimated at \$8,500,000.

\$13,300,000 Expended for Kentucky Roads in 1928.

By J. S. WATKINS,
State Highway Engineer, Frankfort, Ky.

The total expenditures by this Department during 1928 for all purposes including construction, maintenance, administration, etc., is \$13,300,000. This department let during the year 1928 contracts amounting to approximately \$12,000,000.

The most important legislation that went into effect during 1928 was the passage of the "Murphy Toll Bridge Act." This act provides for the issuance of bonds for the construction of major bridges which are to be operated as toll bridges until the tolls retire the bonds.

Another important Legislative act was the making of the five-cent gas tax permanent. The Legislature also made provision to match a special Federal appropriation of \$1,800,000 for the repair of roads in this state damaged by heavy floods last year.

South Carolina Spends About \$15,000,000 a Year.

By CHARLES H. MOOREFIELD,
State Highway Engineer, Columbia.

Roads construction work in South Carolina in 1928 to the close of November totaled 611 miles, at a cost, including bridges, of \$14,610,603.23, with an estimate of 65 miles at \$1,000,000 for December, an aggregate of over \$15,000,000. In detail, the totals for the year, including the December estimate, were: Paved road completed, 441 miles; surface, 30 miles; earth type road, 200.

The estimate of construction work for 1929 is as follows: Paved roads, 350 miles; surface treatment, 75 miles; earth type, 200 miles; total, 625 miles. Expenditures for roads and bridges are estimated to reach \$14,000,000.

Starting in 1920 with only 6916 miles of paved roads, the growth of the state system of hard-surfaced highways is recorded by years as follows: 1920, 25,105 miles; 1921, 29,693 miles; 1922, 73,044 miles; 1923, 52,635 miles; 1924, 40,853 miles; 1925, 74,752 miles; 1926, 76,003 miles; 1927, 204,339 miles.

Funds for the construction program are raised by motor vehicle license fees, the five cents per gallon tax on gasoline, county funds advanced and federal aid.

Since establishment of the State Highway Department, Federal aid funds claimed from the Government to July 1, 1928, totaled \$10,906,166.15, and the total expenditures by the Highway Department for construction was \$40,906,033.27.

Over \$14,000,000 Spent for Road Work in 1928 by Virginia.

By H. G. SHIRLEY,

Commissioner, Department of Highways,
Richmond.

There has been expended during the fiscal year about \$10,750,000 for construction and \$3,600,000 for maintenance on the State highway system.

There were built of concrete, bituminous macadam, surface treated macadam, top soil and various other types of road, about 222 miles and surface treated with bituminous materials, macadam, gravel and top soil 350 miles. There were under construction approximately 400 miles and approximately 500 miles of widening and surfacing under way.

There have been a number of bridges completed and under construction, namely, bridge across the Staunton River at Altavista, Route 14, bridge west of Covington, over the Nottoway River at Courtland, three bridges over Guests River in Wise County, one over the Robertson River, one over Rush River, one over Bannister River, over Swift Creek, Pigg River, Stony Creek, and over the Nottoway River in Sussex County.

A special law passed by the last Legislature increased the gas tax $\frac{1}{2}$ c, making it 5c, and $\frac{3}{4}$ c of this goes to the State and $\frac{1}{4}$ c to the counties. Also there was a bill passed controlling the erection of toll bridges over intrastate navigable streams.

By an act of the Legislature approximately 1600 miles of roads were added to the State system, making a total in the system at the present time of about 7000 miles. Approximately 3500 of this mileage has been modernized and to construct the other 3500, with bridges, etc., will require about \$115,000,000. With the present income it will require approximately 10 years to complete.

The revenue from the motor license fees is used entirely for the maintenance of the State highway system and is sufficient to take care of the 7000 miles.

Expenditures in Tennessee in 1928 Approximate \$6,000,000.

As shown in the report of the Department of Highways and Public Works, the State Highway Department of Tennessee figured that expenditures in 1928 approximated \$6,000,000 on maintenance and improvement, this about equally divided. On completion of the improvement program and the placing of the entire system under maintenance, it is estimated that the maintenance cost will be reduced about \$3,500,000 a year by the time the 7500-mile system contains 3000 miles of high type and 4500 miles of intermediate type pavement. This point will not be reached before 1933.

During the next biennial period, the requirements for maintenance and improvement will be \$5,000,000 a year, as there still are many hundred miles of county roads, recently taken over, to reconstruct and re-bridge.

Tennessee now receives \$1,600,000 a year from the Federal Government, and the roads budget for several years will be based on this figure. In 1926, the gas tax at three cents produced \$3,873,000; in 1927, \$4,469,000, and in 1928, \$5,150,000, estimated. It is recommended that the gasoline tax be increased to five cents, three cents for highway purposes, one cent for interest and amortization

and one cent for the development of rural roads.

At present, the state system consists of 6,515.05 miles, of which 1343.28 is high type pavement, 1356.53 of intermediate type and 3915.24 of low type. The Department recommends: (1) Limit of 7500 miles for the state system; (2) enactment of a five-cent gasoline tax; (3) state aid for secondary system and district roads; (4) establishment of uniform country highway organizations; (5) enactment of passenger-mile and ton-mile tax; (6) adoption of a four-year development program.

Receipts for the fiscal year, July 1, 1927, to June 30, 1928, were: Gasoline tax, \$4,638,133.98; motor vehicle tax, \$3,957,464.29; Federal aid, \$1,161,092.32; county participation, \$7,099,027.08; notes, short term, highway, \$4,000,000.00; bonds, bridge, \$4,010,508.30; all other revenue, \$136,727.56; total, \$25,002,953.53.

Disbursements in the same period were: Construction, F. A. & S. A. projects, \$10,945,505.84; construction, Special Bridges, \$1,135,288.74; general expenditures, \$861,937.24; interest paid, \$161,570.33; maintenance and improvement, \$6,067,275.30; total, \$19,171,577.45.



Georgia State Highway No. 13, Atlanta to Gainesville.

The Record of Alabama Embraces Millions.

By L. M. DINSMORE,

Office Engineer, Montgomery.

For construction and maintenance of the state roads system, Alabama in 1928 spent \$24,300,000. The contracts awarded in the year were as follows: Grading and draining; 350 miles; gravel and sand clay, 600; hard surface, 200; grading and draining by state convicts, 300; total, 1450 miles. Toll bridge contracts awarded on December 4 covered 15 projects and totaled \$4,261,977.98.

Alabama within the last seven years has spent in excess of \$60,000,000 in road improvement, with the result that there is slightly over 4000 miles of improved road on the state system. Of this mileage, 700 miles are hard surfaced, the remaining portion being graded and drained with such temporary surfacings as gravel, top-soil and sand-clay.

Highway improvement in the future will be hard surfacing the remainder of the main traffic system and the construction of additional lateral roads and feeders.



A sand-asphalt highway in North Carolina.

\$8,000,000 for North Carolina State Highways in 1929.

By W. E. HAWKINS,

Construction Engineer, State Highway Commission, Raleigh.

During 1928 we awarded contracts for the construction of the following types of pavement:

Type	Miles	Estimated Cost
Concrete	329.39	\$7,405,921.89
Asphaltic concrete	6.78	96,597.93
Road oil treatment	382.08	1,262,228.88
Graded	195.00	1,634,001.73
Top soil, sand clay and gravel	236.00	2,175,318.53
Macadam	21.79	75,000.00
Bridges		2,500,000.00

During 1929 we will have approximately \$8,000,000 to expend on highways and bridges. Approximately \$4,500,000 will be spent in constructing 250 miles of hard-surface pavement, and \$1,000,000 for bridges, and the remaining \$2,500,000 on progressive types of road such as graded, top soil, and gravel surfacing.

Mississippi to Build 210 Miles State Roads in 1929.

By J. D. MONETTE,

Office Engineer, Mississippi State Highway Dept., Jackson.

The mileage and types of road completed during the year 1928 by the State Highway Department is as follows:

Graded and drained—87 miles.

Gravel surfacing—112 miles.

Cement concrete pavement—55 miles (this item includes 19 miles of 9-foot pavement).

1.9 miles creosoted bridging, which represents a structure across the Bay of St. Louis on U. S. Highway No. 90 and which includes a steel draw span constructed at a cost of \$814,000. At this time we have under construction a bridge on U. S. Highway No. 90 between Biloxi and Ocean Springs which is precast pile concrete structure having a steel draw span, to cost approximately \$812,000. We also have under construction 30 miles graded and drained road and 25 miles of gravel surfacing. There will be no pavement carried over into this year. Our program for this year includes 150 miles graded and drained road, 45 miles gravel surfacing and 15 miles cement concrete pavement.

Arkansas Commitments in 1928 Ran to \$9,000,000.

By HARRY A. FISH,

Statistician, State Lands, Highways and Improvements, Little Rock, Ark.

The present road construction program is being carried out with funds provided by a highway note issue, approved by a decision of the Supreme Court of Arkansas, and the State Highway Commission is now functioning in a manner which is meeting with the highest degree of approval by the people of the State and by the Federal Government, under the terms of this Act.

A division of roads, as to the nature of improvements, is as follows: Unimproved, 1499.2 miles; graded, 2303.4; graveled, 4072.2; macadam, 167.5; asphalt, 387.9; concrete, 288.5; total, 8718.7 miles. Of this mileage, 1835.2 miles are considered as being on the primary system, 3198.7 miles on the secondary system and 3684.8 miles on the third class

system. We find our average cost of gravel roads to be approximately \$15,000 per mile; asphalt surface, \$40,000, and asphalt surface on concrete base, approximately \$45,000. For grading, the cost runs from \$3000 per mile to \$18,000, and this also covers the minor drainage structures.

Contracts were duly awarded during the year of 1928 as follows: Highways, 797.951 miles; bridges, 73,701.92 feet; total commitments, \$9,069,835.26. Figures for highways constructed for the year 1928 are as follows:

Grading and Drainage Structures	1,337.233 miles
Gravel Surface	617.498 "
Concrete Pavement	77.099 "
Asphalt Surface	5.476 "
Timber Bridges	25,757.92 feet
Concrete Bridges	28,234.85 "
Steel Bridges	5,038.93 "

As some of the construction included in the above figures overlap, a summary of these figures may be shown as follows for the year 1928: 837 miles of highway

and bridges at a total expenditure of \$9,500,000. Together with the above figures, which only cover those highways and bridges constructed by contract, many miles of highways and bridges were constructed by state forces at an expenditure of approximately \$1,900,000.

Bridge construction in this State has increased to such a degree as to be of a major importance in highway work. A recent survey made of bridges now in place and to be constructed shows that, when completed, there will be 330,900 lineal feet of bridges on 8718 miles of highway, or 38 lineal feet per mile. These figures are for stream crossing and are exclusive of bridging for grade separations. The cost varies from \$30 per lineal foot for the smaller treated timber bridge to \$250 per lineal foot for the permanent bridges across the larger streams.

With reference to our program for the year of 1929, we do not have any definite plans.



Bridge recently built over Bay St. Louis at Bay St. Louis, Miss.

Missouri Has Spent and Will Spend Millions.

By T. H. CUTLER,

Chief Engineer, Jefferson City.

Beyond spending \$5,733,938 on 477.27 miles of state roads in 1928, Missouri was authorized by the citizens in the recent election to issue \$75,000,000 additional road bonds, and expectation prevails that the Legislature soon will enact an enabling law, which will become operative 90 days after passage. About two months more will be required for printing and signing of the securities and for advertising, and the bonds probably will be placed on the market in the fall of this year. No time will be lost in the awarding of contracts and the State Highway Department will be ready to start construction at the opening of the

season in the spring of 1930.

It is expected to sell these bonds at the rate of \$15,000,000 a year, the proceeds to be used to expedite completion of the present state roads system, the addition of 300 miles to round out the present system and to connect state parks, to institute a supplementary highways system, to be known as farm-to-market roads; to widen and build additional roads in congested sections around St. Louis and Kansas City and to refund to counties for roads taken over and made part of the present state roadways system.

Bridges by separate contract brought to completion during 1928 aggregated 4766 feet, at a cost of \$721,928.73.

The status of the road program, including Federal aid projects, prior to the Centennial Road law program may thus be given:

	Total Commitments to Date (Excl. H.L. 1917-1918)		Work Done, 1928 Only	
	Miles	Money	Miles	Money
Graded Earth	3,346.202	\$36,259,247	186.820	\$2,080,412
Gravel Surface	2,567.642	25,258,163	171.351	876,841
Pen. Macadam	103.090	2,436,356		2,661
Concrete, 18 foot	1,384.837	47,401,041	106.749	2,254,276
Concrete, 9 foot	231.567	4,103,073	6.138	6,364
Combination Concrete and Gravel	152.132	3,651,289	6.219	180,564
Bridges	4.369	6,592,514		332,820
Totals	7,789.839	\$125,701,683	477.277	\$5,733,938

In detail, the 1929 construction program is as follows:

Types	Primary Roads	Secondary Roads	Total
Graded Earth	63.4 miles	384.5 miles	447.9 miles
Gravel	3.6 "	135.4 "	139.0 "
18-foot Concrete	180.3 "	35.5 "	215.8 "
9-foot Concrete	11.7 "	3.0 "	14.7 "
Total Estimated Cost	\$6,084,900	\$8,200,695	\$14,285,595

Governor Moody of Texas Discusses Highway Problems.

By GOVERNOR DAN MOODY.

The development of highways in Texas has progressed rapidly, but we have problems which likely do not exist in other states. First, the tremendous area of Texas calls for construction of more miles of highway than almost any other state in the Union. We now have more than 20,000 miles of designated highways. Experience has taught us that the cost and maintenance of temporary roads is so high that the practice of economy demands the construction of permanent types; the first cost is high, but maintenance cost is low when compared with the less permanent types. In the past our highway fund has been supplied by a tax on gasoline and the usual registration and weight fees on motor vehicles. The annual income of the department at this time, including Federal aid, amounts to upward of \$20,000,000. For about one and a half years the gasoline tax was three cents per gallon, but on September 1, 1928, the rate dropped to two cents.

In an effort to speed up construction of the designated system into permanent types of highways, R. S. Sterling, chairman of the Highway Commission, advocated a \$300,000,000 bond issue. It was his plan that these bonds should be redeemed by the three cent gasoline tax. He also proposed that out of the bond issue the counties and defined road districts should be refunded the amount they had expended from their local bond issues in the construction of designated highways. He proposed further that this money when refunded could be used for the retirement of bonds or, by vote of the people, for the construction of lateral roads. To this plan was added the further suggestion by other parties that the bond issue would make possible the allocation of a larger share of the license fee and weight tax to the counties for the construction of lateral roads.

I asked the members of the Legislature and Senate to select a committee of 31, composed of one representative from each senatorial district of the State, to consider the problem of financing our highways. That committee has been in session and has concluded its tentative report.*

At the last session of the Legislature I advocated a change in our statutes which would allocate a larger share of the license and weight fees of the several counties for lateral road construction by the counties. This suggestion was acted upon favorably by the Legislature, and under the Act passed the counties received about \$1,500,000 more money from this source last year for lateral road construction than they had received at any time in the past. Our population is gradually centering in some of our larger cities, while other sections of the state are sparsely settled. With higher taxable values in these larger centers their highways, both designated state highways and lateral highways, have progressed nearer completion than the roads in the less thickly populated sections. I have felt, and urged, that the principle of Federal aid should be applied to the State to better finance lateral road construction in the less wealthy counties. The division of the license and weight fees I suggested was the first step in this direction, and I believe we will ultimately reach the point in Texas when we will be allocating moneys to the counties to be used in lateral road construction from a state fund, much as Federal aid is allocated to the states.

If the bond issue does not appeal to the people of Texas, it is my judgment that the next step would be to submit a constitutional amendment imposing an occupation tax on the business of selling gasoline at wholesale, to insure a continuous revenue to the Highway Department in order that it might outline a program to last over a period of years, and build to that program. Under our present system the department can only act in contemplation of the revenues to be received dur-

ing the biennium, for it cannot tell what changes each succeeding Legislature may make in department revenues.

The practical thing needed in this state in highway construction is a continuous and certain revenue to the Highway Department that will make possible the formulation of a program of building to last over a period of years. The system of depending in part on a highway fund and in part on the initiative of counties and districts in the issuance of bonds to aid in the work causes highway development to rest largely with the counties and local districts. This in a measure holds back the construction of a correlated system of highways and is responsible for the fact that we have gaps in our roads.

*Since Governor Moody's letter was written the report of the committee has been made public. The committee recommended that a constitutional amendment be adopted, empowering the Legislature to authorize a state-wide bond issue of a maximum amount of \$225,000,000 for highway construction. The committee also recommended that the legislature enact laws providing for motor vehicle license and weight fees, regulation of traffic and allocation of income from license fees and gasoline sale taxes.

Recommendation for a large bond issue made by the committee differs in several respects from the plan proposed by R. S. Sterling, chairman of the State Highway Commission, who has been active in waging a campaign for the submission by the Legislature of a proposed amendment to the constitution providing for issuing a maximum of \$350,000,000 state bonds, covering a period of 30 years, for highway construction. He will carry his fight into the Legislature, it is said, irrespective of the fact that Governor Moody has indicated that he will support the recommendations of the committee which he appointed to map out a highway program.

Proposes to Increase Gas Tax and Abolish County Road Levy in North Carolina.

As a Senator-elect to the North Carolina Legislature, Walter Clark of Mecklenburg is inclined to raise the gasoline tax in that State from four to five cents and to abolish the county road tax without sacrificing revenue needed for highway tax. At present, the various counties engage in road-building on their own account, supplementary to the State road-building, and that plan is in vogue in Maryland, the original good roads state.

Under Mr. Clark's tentative plan, outstanding highway bonds would constitute a first lien on the state's highway revenue, and an amount sufficient to pay interest and create an adequate sinking fund would first be provided out of the total highway fund. Of the remainder of the fund, a certain part, probably about half, would be set aside for the building and maintenance of trunkline highways and the remainder be used for construction and maintenance of county highways other than state trunklines.

This plan, Mr. Clark feels, would result in economy and to the relief of many taxpayers, and also would be more equitable in that it would place the burden of state and county highways on people who use the roads and in proportion to the extent to which they use them.

In his own county, Mr. Clark finds that the county road tax is 18½ cents on \$100, the law requiring that a minimum tax of 15 cents shall be levied annually for road purposes. As an alternative to the plan he suggests, Mr. Clark might favor a maximum of 18 or 20 cents for the highway tax in his county.

The automobile license taxes in North Carolina also are applied to interest and sinking fund charges and the construction and maintenance accounts.

Is Influenza Cured by Grapefruit Juice?

By DR. WILLIAM ALEXANDER MACKENZIE, Leesburg, Florida.

Dr. MacKenzie, the writer of the following article, was formerly assistant instructor in medicine at St. Louis University; formerly resident physician of Mount St. Rose Throat and Chest Hospital at St. Louis; associate of Dr. William Porter, a leading throat and chest physician of St. Louis, who was earlier the associate of Sir Morrell MacKenzie, physician to the Crown of England. Dr. MacKenzie has been for ten consecutive terms mayor of Leesburg, Fla.; three terms a member of the legislature, and for two terms president of the Lake County Board of Public Instruction. He has retired from active practice, and does only charity or emergency work. Recent statements from him in regard to the value of grapefruit juice in the cure of influenza prompted the MANUFACTURERS RECORD to ask for his experience and his views on the subject. This statement and the following article by him are in answer.

Not being a medical authority, the MANUFACTURERS RECORD cannot assume any responsibility for such important statements as Dr. MacKenzie makes, but we suggest that responsible medical authorities should fully investigate the matter.—Editor MANUFACTURERS RECORD.

Grapefruit, baking soda, a few fast days, pure water! Prosaic things, aren't they? So simple that they have been overlooked as influenza marched on taking its terrific toll, for the eager eye usually is oblivious to the obvious, yet in them lie the way to health and restoration from the savage "flu."

Up until 1918, the cause, nature and course of true Spanish influenza was practically unknown in America. When the epidemic came, physicians groped in the dark while coffins choked the highways. Calomel, purgatives and heart depressants given "for the fever" kept funeral bells tolling all the more vigorously. And then as I searched frantically for some light in the darkness of this grim disease, there accidentally came a faint glimmer like a struck match in a fog. It was a translation of a paper by a famous Spanish pathologist who had made an intensive study of influenza. That paper traced the course of the disease from its origin in Mongolia to Morocco, thence to Spain and from there to the four corners of the world. It suggested no treatment, but made the emphatic claim that the germ causing influenza thrived and became virulent in an acid medium, and was inhibited by an alkaline one. If true—treatment was simple and plain; viz., to render the system of its victim alkaline. How? Many means were available, yet the simplest and most universally prevalent were citrus fruits and baking soda.

Fearfully I tried grapefruit juice and soda in my next case

of influenza, a virulent one complicated with pneumonia. Results were startling—symptoms mitigated in a few hours, hemorrhage (severe) stopped immediately, recovery was rapid.

Being called into the U. S. Public Health Service I healed 502 cases of the most severe types within 60 days without a single fatality, this in spite of the fact that double pneumonia, violent hemorrhage, cerebral (brain) infections, intestinal inflammation, inadequate care, extreme poverty were among the things with which it was necessary to contend. The same treatment tried by other physicians and myself in innumerable cases since that time has given the same happy results.

Following is the treatment in detail: At the first signs of "cold" or influenza all food is stopped, but plenty of cool, pure water is given throughout the course of the disease. Food in an inflamed alimentary canal is worse than useless, will not digest, taxes the flagging heart in an effort to get rid of it, irritates and distends an inflamed digestive tract. No one will starve or need food for a few days. The juice of from five to fifteen grapefruit is given daily in potions every four hours or oftener. In between the juice potions, not with them, sodium bicarbonate (preferably Squibbs) is given thusly—a teaspoonful in a glass of water, then a quarter teaspoonful every four hours or oftener until symptoms are practically gone. For an obstinate cough, guaiacol carbonate in one grain doses is helpful though not essential. The sheet anchors are grapefruit juice and soda, and no case of influenza in a normally resistant individual will result fatally if used as advised.

Orange juice and lemon juice may be used instead of grapefruit but are not so satisfactory. Orange juice is sweet and tends to disturb the victim's digestion, lemon juice is too sour to be used in quantity. The bitter principle of grapefruit not only tends to tone the flagging system but seems to have a specific influence upon the disease while the semi-tartness of the juice is grateful to fevered tissues. Grapefruit juice alone will achieve results, but the soda hastens alkalinity. Citrus fruits *taste acid*; but citric acid makes the system alkaline. Grapefruit juice and soda will usually cure an ordinary cold in from 36 to 48 hours, relieve bronchitis, often prevent or mitigate pneumonia. In acid stomach, grapefruit juice is a specific while in diabetes or other diseases where acidosis is present it is always indicated.

In influenza, calomel or other violent purgatives should never be given or taken. Influenza destroys the coagulating power of the blood and tends to produce hemorrhage from lungs, bowels, nose, throat, ears or stomach. Calomel and its kin encourage hemorrhage. They are deadly. Grapefruit juice and water will attend to all the elimination necessary in a fasting patient.

\$29,000,000 Expenditure by Western Union Telegraph Company.

According to a recent announcement, the Western Union Telegraph Co., Inc., plans the expenditure of approximately \$29,000,000 in 1929 for plant improvements, replacements and new construction. A tentative program calls for the expenditure of \$5,000,000 on outside construction which will result in an increase of wire facilities to properly take care of an increasing volume of telegraphic traffic, and \$12,000,000 for replacing wire and telegraphic equipment. Nearly \$4,000,000 will be expended, it is estimated, for the purchase and

installation of a new and improved type of stock ticker and \$3,500,000 for the purchase and installation of additional Simplex automatic equipment. General improvements and additions to operating equipment and plant are expected to cost more than \$4,000,000, while another \$1,000,000 will be expended for the re-arrangement, renovation and relocation of smaller offices on the system.

The Mississippi Valley Trust Co. and the Merchants Laclede National Bank, both of St. Louis, Mo., have effected a consolidation, which will rank, it is said, as the third largest institution of its kind in St. Louis.

\$5,000,000 Pennsylvania Railroad Terminal in Operation at Norfolk.

The Pennsylvania Railroad's Little Creek Freight Terminal at Norfolk, Va., was completed and placed in operation January 1. It had been under construction since 1926 and represents an investment of approximately \$5,000,000. It is one of the largest of its kind in the world and is to be used as the southern terminus of the railroad's Cape Charles-Norfolk freight car ferry; since January 1 the tugs and barges of this ferry route have been operated in and out of Little Creek instead of Port Norfolk as formerly.

The new project includes among its many features a deep water harbor with two freight car transfer bridges and a bulkhead on the south bank of Little Creek, a short distance northeast of Norfolk. A 20-foot channel was dredged from this inner harbor for approximately $1\frac{1}{4}$ miles to the open waters of Chesapeake Bay where two stone jetties protect the entrance, one extending into the bay 1320 feet and the other 1000 feet. The channel from the bay to the inner harbor is from 300 to 700 feet in width.

Several miles of yard trackage support the Little Creek float bridges, and from this lead the main running tracks which connect the ferry terminal with Norfolk proper. This connection was provided by the construction of new trackage part of the way and the acquisition of trackage rights over other railroads for the rest.

An important feature of the development is the large modern freight warehouse nearing completion at St. Julian Avenue. It is of concrete construction, modern in every particular, and measures 350 by 60 feet. It will be served by extensive yard trackage, including platforms for the loading and unloading of automobiles, facilities for icing refrigerator cars, and derricks for handling heavy commodities. Although the warehouse probably will not be completed before February, temporary arrangements have been made to place part of it in operation with the other facilities.

With the Little Creek terminal project in service, approxi-

mately 12 miles are cut from the railroad's Cape Charles-Norfolk ferry route. The old route, with the southern terminus at Port Norfolk, involved a water haul of 36 miles which, at the Norfolk end, was through a channel congested with general shipping. The change to Little Creek took this heavy tug and carfloat traffic out of the busy waters of Hampton Roads and the Elizabeth River to the comparative freedom of the open bay.

Saving of time on the water haul and the commodious and modern facilities of the new terminal provide improved freight service between Norfolk and Portsmouth districts and the consuming and producing centers of the north and east, as well as for the through freight to and from the large and important sections of the southeastern states, which moves through the Norfolk and Cape Charles gateway.

The freight ferrying operations of the Pennsylvania Railroad between Cape Charles and Norfolk are believed to be the most extensive of their kind in the world. Under conditions of peak traffic the ferry movement in both directions has approximated 190,000 cars in a year.

Grading and track work was done by Tunstall-Johnson Co., Norfolk; electrical work by Wm. A. Burckard Company, Norfolk; dredging, jetties, bulkhead work, masonry and float bridges by the Arundel Corp., Baltimore. The freight house was constructed by R. R. Richardson, Norfolk.

New Orleans Plans Airport As Part of \$30,000,000 Development.

New Orleans, La.—As a part of the \$30,000,000 Lake Pontchartrain development, the Orleans Parish Levee Board has authorized the construction of an airport designed to accommodate land and seaplanes.



Photo by U. S. Army Air Service, Langley Field, Va.

PART OF LITTLE CREEK TERMINAL DEVELOPMENT OF THE PENNSYLVANIA RAILROAD, NEAR NORFOLK.

\$17,000,000 EXPENDITURE BY ALABAMA POWER COMPANY ANNOUNCED.

Budget for 1929 Provides for Numerous Major Projects.

Birmingham, Ala.—A construction and operating budget for 1929 by the Alabama Power Company calls for the expenditure of \$17,000,000, according to an announcement by Thomas W. Martin, president. Two major projects included in the company's construction program for the year are the completion of the Gorgas steam plant on the Warrior River, for an initial installation of 80,000 horsepower, and the reconstruction of the lower Tallassee development for an initial installation of 84,000 horsepower, scheduled for completion in July, 1930. Other improvement items contemplated will include additions to substations, high tension transmission lines and low-voltage distribution lines to connect customers.

Materials and supplies estimated to be required for the year's construction include 100,000 barrels of cement, 60,000 tons of sand, 600 tons of structural steel, 300 tons of reinforcing steel and large quantities of poles, wire and other line materials. Employment for construction purposes is expected to reach a peak of 2500 workers in April. Regular operating expenses, including wages, bond interest, approximately \$2,000,000 in taxes and a similar amount in dividends to preferred shareholders, will require the bulk of the funds set up for operation in 1929.

Dallas Forging Ahead.

The December issue of "Dallas", the publication of the Chamber of Commerce, Dallas, Texas, records remarkable civic developments for the year 1928.

An advertising campaign, which reached in October the high mark of its first year, had been carried on in 30 publications with a total subscriber list of 5,321,678 regular readers. In those publications, advertisements of Dallas were published in 32,262,427 copies. These figures represent the first year in a 3-year, \$500,000 advertising campaign.

During the first five months of the campaign, 1302 inquiries were received, of which 39 admitted an interest in building factories in Dallas, 109 were considering distributing branches and 29 were interested in opening sales offices. A total of 636 of the inquiries came from executives writing on the stationery of their companies. It is a curious coincidence that during the 10-month period, January 1 to November 1, 636 new businesses were established in Dallas, as compared with 362 for the same period of 1927.

Two airport sites were purchased, and the city is working to make itself the center of great aviation activities.

One of the year's outstanding developments really had its birth in December, 1927, when the voters "went to the polls and by an overwhelming majority endorsed a proposal to finance through bond issues a complete nine-year \$100,000,000 program, whereby the schools, the parks, the public library, the water and sewer and drainage needs of the city, the paving, garbage disposal, fire alarm system, traffic problem, and the necessity for creating municipal airport facilities, might be enlarged and extended to meet the needs of the fast-growing community of Dallas." The total sum authorized at that time was \$23,900,000.

A study of the departmental reports of the Chamber of Commerce reveals intense activity in organizing the business life of the city for greater prosperity. The Retail Merchants Association attacked problems common to all retailers, such as return goods, credit, and improvement of trade practices, besides endeavoring to stimulate better salesmanship, more attractive stores and store displays; the Wholesale Merchants

Association went out in vigorous fashion after statewide business; the Junior Chamber of Commerce, the Manufacturers Association, the Convention Department, and eight other departments, all apparently fired with zeal, are described as functioning with an energy that leaves the reader wondering how the members find time or strength for their own affairs. And a correspondent writes us: "I am amazed at the change that has been made in the city since I was here a year ago."

Dallas now is giving serious consideration to the adoption of the city manager form of government, particular attention being devoted to the question whether or not such a change would aid the nine-year expansion program mentioned.

Road Show at Cleveland.

From latest reports to the management of the twenty-sixth annual convention and road show of the American Road Builders Association, to be held at Cleveland, Ohio, January 14 to 18, it appears that at least 400 exhibitors will present for consideration virtually all the latest improved road-building equipment and materials. The exhibit will cover approximately eight acres of floor space and will necessitate the transportation of 500 carloads of displays of many kinds.

According to the Daily Calendar: Saturday, January 12, will be Manufacturers and Distributors day and on Sunday there will be a reception and tea for delegates from outside the United States. The following Monday will be Exposition day; Tuesday, City Officials' day; Wednesday, Pan-American day; Thursday, County Highway Officials' day, and Friday, Exposition day. A comprehensive program has been prepared for each day, appropriate to each title.

\$400,000 Apartment Building for Baltimore.

General contract has been awarded to the Consolidated Engineering Co., Baltimore, to erect a \$400,000 apartment building on Park Heights avenue near Shelbourne road, Baltimore, for the Greenway Apartment Co., J. I. Goldstein, president. Plans for the building, prepared by Frederic A. Fletcher, local architect, call for a brick and stone structure with 32 housekeeping suites.

New \$4,500,000 Sugar Mill Projected for Florida.

The Southern Sugar Company, of Clewiston, Fla., which will soon put in operation a 1500-ton sugar mill there, plans to erect a 2500-ton sugar mill at Canal Point, Fla., according to information from the Chicago office of William Johnston, vice-president of the company, who states that plans are now being formulated. Press reports indicate that the Canal Point project will involve an expenditure of \$4,500,000.

\$310,000 Low Bid on Benning Barracks.

Fort Benning, Ga.—The James C. Miller Co., Campbells-ville, Ky., submitted the lowest bid at \$310,000 for the construction of barracks No. 2 here, according to information from the office of Lieutenant W. M. Allison, constructing quartermaster. The award will be made upon approval of the bid by the office of the Quartermaster General in Washington.

\$325,000 Hotel for Tuscaloosa, Ala.

Tuscaloosa, Ala.—Dr. J. H. Fitts and Austin Bennett are having plans prepared by D. O. Whilddin, Birmingham, for a \$325,000 hotel here of 100 rooms. The building will be of reinforced concrete and structural steel, with brick walls, stone trim and built-up roof. It will be equipped with two high speed elevators.

IRON, STEEL AND METAL MARKET

Good Volume of Steel on Order Books.

Pittsburgh, January 7—[Special.]—Steel mills entered the new year with a good volume of actual shipping orders, some having been arranged for execution after the turn of the year to keep the material out of inventory. Steel production last week, while not closely estimated, is believed to have been at an increase over the average rate in December, which in steel ingots relative to assumed productive capacity was about 85 per cent. There was no distinct decline in production at holiday time except that most mills were idle the Monday before Christmas as well as on the holiday. New Year's day made no interruption in steel production, and few finishing mills were idle.

Throughout the steel trade it is considered certain that steel production during the present quarter will be very heavy, considerably in excess of production in the quarter just ended. This, however, represents no very remarkable situation, for regularly there is a seasonal increase, March or April being almost invariably the peak month of the year in steel production. For the second quarter prospects are considered good. For the second half conservative observers are indisposed to make predictions, on the perfectly fair ground that more than six months is too far ahead to look in these days of hand to mouth buying.

The automobile industry has not been nearly as free in making engagements for steel as it has been in making predictions as to its production. There has been some contracting for first quarter, but not a great deal and there has been more actual buying, in fresh orders or in specifications against contracts, than usual at this particular time, but nothing like a rush. Yet in sheets at least there would be danger of supplies being inadequate if automobile building should be as active as has been predicted in some quarters.

Railroad expenditures in 1929 promise to be fairly heavy, perhaps in excess of the 1928 amount, but programs so far announced do not involve as much steel as in some past years, as the expenditures run so largely to electrification. Rail buying has shown a decrease from a year ago and freight car buying, while improved in the last two or three months, has not been really active. Rails and cars involve much more steel, relative to dollar expenditure, than electrification and other improvements.

Finished steel prices are steady all along the line, advances having occurred in the majority of lines in the last few months. The latest advance announced, that of \$2 a ton in wire and wire products, outside of fence, has not had a crucial test as yet, but jobbers have taken first quarter contracts without demur and the advance is expected to work out all right.

While the steel makers have been complaining more or less of earnings being too low relative to capital investment, and while serious efforts were made last year to work prices up, the influential producers are now satisfied with the price level, except perhaps for a little rounding out of the price structure here and there, and it seems altogether probable that no further general advance will be sought, even should conditions temporarily make it easy to attempt further advances.

The scrap market has strengthened farther, sales of heavy melting steel scrap being made to Pittsburgh district mills at \$18.75 and \$19, the highest price in nearly three years. No actual shortage exists, such as would force mills to use less scrap and more pig iron in making steel, but to bring out adequate supplies higher prices have to be paid. Last summer some scrap sold at \$14 and it soon became evident that the price was altogether too low. Pig iron is dull and reasonably steady.

Price Advances on Lead and Copper.

New York, January 7—[Special.]—But little time had to elapse in the new year before prices of some of the major metals started going higher. Lead came out of its rut and was marked up \$3 per ton to 6.65c per pound, New York, and 6.45c, East St. Louis. Copper has reached 16¼c per pound in the domestic market and 17c c. i. f. European ports, the highest since 1920, except for a short spell in early 1923. The present price of lead is the highest since August 23, 1927.

Other metals were quiet as to actual business but remain very strong in tone. Zinc prices are slated to go higher, especially because of the growing scarcity of zinc ore. Stocks of ore in the tri-State district were reduced further the past week, totaling 27,000 tons as against 55,000 tons a year ago. Zinc ore production week before last was only 4000 tons as against a normal of 11,000 tons, due to the holiday shutdowns.

Prices of silver have been changing but little. Antimony holds close to 9¼c per pound, duty paid, in a rather inactive market. Quicksilver prices are unchanged at \$122 to \$122.75 per flask of 75 pounds.

The annual business reviews are invariably in a very optimistic vein as to prospects for the first half of this year. New projects are coming out constantly, involving the use of large tonnages of metals. For instance, it has just been reported that the New York Central is considering the electrification of its lines from New York to Buffalo at a cost of \$75,000,000 or more, which if carried out will mean the use of thousands of tons of copper.

Total sales of copper during December are estimated at 340,000,000 pounds, of which 210,000,000 pounds was for domestic consumption. It is almost a certainty that the 17 cent price in the domestic market will be reached; this has been the goal for several months. That price may be prevailing when this is being read. Some observers believe the price will not stop at 17c but will head towards 18c. On the other hand, many claim the market has been carried away in a spirit of mob psychology and that prices will not hold. They say that consumers have been overbuying and a lull is about to come over the market which will last until the enormous production has overtaken consumption.

March copper production is by now almost completely sold up and probably one-third to a half of April output is under contract. Demand on the part of foreign users during the past few days has been exceptionally heavy, some days witnessing foreign sales of 11,000,000 pounds.

The advance in the lead market here was caused by a series of quite drastic rises in lead on the London Metal Exchange. Our market has been waiting all this while for the world situation to come up to our level. The situation among our lead producers is the best in several years and this has been reflected in the rapid rise of the lead shares on the New York Stock Exchange. Practically all January production is sold out and in some cases most of February is under contract.

Tin prices have been on the decline because of unfavorable statistics. The world's visible supply of tin increased 2496 tons, when a gain of but 1000 tons had been predicted. Total stocks on December 31 were 24,563 tons, the largest since 1924. Other statistics showed a rather too liberal supply such as Straits shipments, American tin deliveries, both pertaining to December; likewise stocks of tin in United Kingdom warehouses gained 250 tons in a week to another new high for the past five years. Yet tin consumption this year promises to be very heavy. Many would like to see some steps taken, however, to curtail production.

Zinc prices have been unchanged at 6.35c per pound, East St. Louis, and demand has been quiet. Yet consumption in the steel and brass industries continues very heavy.

Activity in the Birmingham District.

Birmingham, January 7—[Special.]—General activity marked the opening of the new year in iron and steel, production in both commodities being speeded up some, delivery being urged by consumers in every direction though not in large volume and inquiries still coming in. There was resumption of shops where iron is melted, after an idleness of from one to six weeks. Sales of pig iron have continued at from \$16.50 to \$17.00 per ton, No. 2 foundry, base, with the latter to be the market price at any time. Order books with the furnace interests are again reported in splendid shape for the first quarter, though producers of iron do not believe the base price is commensurate.

Shops of the American Radiator Company, idle since November, are again in operation, using upwards of 300 tons of iron weekly besides considerable old material. Cast iron pressure and soil pipe shops have taken on a little impetus, with several lettings reported for pressure pipe. Bids are still out on some round tonnages.

Sloss-Sheffield Steel & Iron Company's No. 1 city furnace which was blown in the first day of the year, a completely rebuilt iron-maker, equipped with the J. P. Dovel appurtenances, eliminating flue-dust losses and other devices, has shown splendid results already. The sister furnace, No. 2 city, has been making more than 400 tons of iron daily. Sloss-Sheffield now has four blast furnaces in operation, two at North Birmingham and the two city furnaces, a daily output around 1500 tons being noted. The Woodward Iron Company has four furnaces on foundry iron, the Republic has one and a second furnace ready for operation when its surplus stock of iron has been reduced some, probably before the end of the month. The Central Foundry Co. has a furnace on foundry iron. Nine furnaces are on basic and special brand iron.

The steel industry shows the effects of better feeling and in some shapes, sheets, for instance, there is active operation of mills day and night. Plate and structural steel is in good demand and fabricating shops are active.

Improvements are planned for the Ensley Works of the Tennessee Coal, Iron & Railroad Company, more modern steel furnaces to be installed by the Rust Engineering Co. of Pittsburgh, providing greater production of blooms. Plans of the Gulf States Steel Company will probably be announced in 60 days, current reports being that a sheet mill is being considered to be erected at the steel mills at Gadsden. Republic Iron & Steel Company has ideas of development in the Birmingham district. W. H. Oldham, superintendent of the Fairfield Steel Works of the Tennessee Coal, Iron & Railroad Company, is to be the new manager of Southern properties of the Republic Company, the properties including three blast furnaces here with by-product coke works, coal and ore mines, limestone quarry and a railroad connecting the coal mines with the coke works and blast furnaces. The Republic will engage in steel making in this district before long.

The coal industry showed considerable recovery during the last month of the past year but the production for 1928 is still estimated around 17,000,000 tons.

Coke is holding up fairly well. The scrap iron and steel market is improved; base prices are firmer.

PIG IRON.

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnaces \$16.50 to \$17.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$17.00 to \$17.50; iron of 2.75 to 3.25 per cent silicon, \$17.50 to \$18.00; iron of 3.25 to 3.75 per cent silicon, \$18.00 to \$18.50; charcoal iron, f. o. b. furnace, \$29.00.

OLD MATERIAL.

Old steel axles	\$16.00 to	\$17.00
Old iron axles	16.00 to	17.00
Old steel rails	12.00 to	13.00
Heavy melting steel	11.50 to	12.50
No. 1 cast	14.50 to	15.00
Stove plate	13.00 to	13.50
No. 1 railroad wrought	9.50 to	10.50
Old car wheels	12.00 to	12.50
Old tramcar wheels	12.50 to	13.00
Machine-shop turnings	9.00 to	9.50
Cast-iron borings	9.00 to	9.50
Cast-iron borings (chem.)	13.00 to	13.50

TEXTILE

\$4,000,000 Expansion of Tire Fabric Mill at Thomaston.

Thomaston, Ga.—The Goodrich Rubber Co., Akron, Ohio, exercising an option as of January 1 for the purchase of the Martha Mills here from the Hightower interests, is having plans prepared by Robert & Co., Inc., Atlanta, for extensions which will treble the capacity of the cord tire fabric plant, it is said. An addition will be built to the left wing of the mill building, 192 by 160 feet, three stories and basement, while an addition to the right wing will be 250 by 160 feet, three stories and basement. An addition to the warehouse, 150 by 130 feet, 2 stories and basement, will also be erected.

Plans for the additions are expected to be ready for distribution to contractors by January 20. The cost is estimated between \$3,000,000 and \$4,000,000.

American Glanzstoff Corporation to Increase Capital Stock and Build Second Unit.

At a recent meeting of stockholders of the American Glanzstoff Corporation, which is building a big rayon plant at Bemberg, between Elizabethton and Johnson City, Tenn., the corporation was authorized to increase its capital stock for the construction of a second unit which will double the capacity of the plant. The stock of the corporation will be increased by the issuance of 150,000 shares of common stock of no par value, to be designated as class B stock and offered at \$60 per share to shareholders in the ratio of one share of new stock for each two shares now held. The new stock will be underwritten by Speyer & Co. and Lehman Brothers, both of New York; Teixeira de Mattos Brothers, Amsterdam, Holland, and Lazard Speyer Ellissen, K. a. A., Berlin and Frankfurt-on-Main, Germany.

Contract for 450 Dwellings to Be Awarded.

Gadsden, Ala.—Plans and specifications are being prepared by Robert & Co., Inc., Atlanta, for 450 operatives' cottages for the Goodyear Tire & Rubber Co., Akron, Ohio, which plans to erect a \$30,000,000 factory here for the production of automobile tires, and for the first unit of which contracts are expected to be awarded soon. These dwellings, it is understood, will be built by the Gadsden Land & Building Company, a locally-owned corporation, plans to be released about January 15 and contracts let about February 1.

New Company to Manufacture Underwear.

Buena Vista, Va.—A new plant for the manufacture of silk and rayon underwear will be established here by the Sunshine Robe & Underwear Corp., Cleveland, Ohio, which has incorporated in this state with an authorized capital stock of \$50,000 of preferred stock and 1000 shares of common stock of no par value. The company has leased space in a building and will remove machinery from its Cleveland plant. R. W. Young, Cleveland, will be the general manager.

Hosiery Mill Established at Anniston.

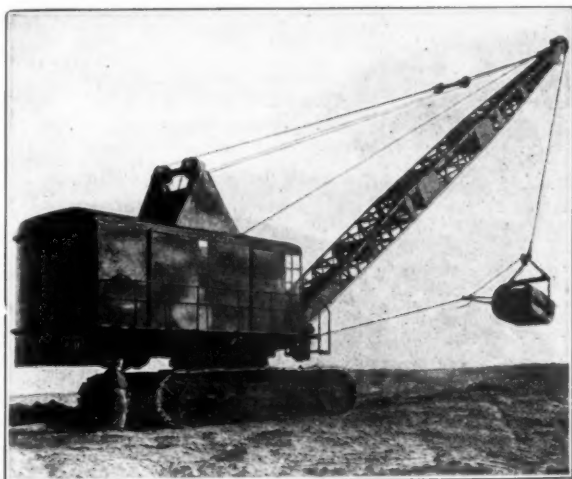
The Lengel-Fencil Co., Reading, Pa., is establishing a branch plant at Anniston, Ala., for the manufacture of seamless and full fashioned hosiery. It expects to begin operations in April and will add machinery as rapidly as help can be trained. The Anniston Chamber of Commerce has provided a site of 11 acres, it is said, and citizens of Anniston are erecting the mill building. The first unit of the mill will cost \$300,000 and employ 300 operatives, according to an announcement.

NEW AND IMPROVED EQUIPMENT

P&H 3½ Cubic Yard Excavator.

A new excavator of 3½ cubic yards capacity has been added to the line of gasoline, Diesel and electric powered shovels, draglines and crawler cranes manufactured by Harnischfeger Corporation, Milwaukee, Wis. It is known as model 900. The revolving frame, carbody and corduroy frames are single piece annealed steel castings, fully machined at bearing points. The revolving frame weighs 17,000 pounds and its overall length is 19 feet 6 inches, and the main machinery includes a 175-horsepower, six-cylinder Diesel engine.

There are roller bearings throughout the main machinery of the upper structure and four double sets of swiveled, conical steel swing rollers carry the weight of the revolving structure and are also provided with anti-friction roller bearings. Also, there is a box girder shovel boom, there are outside dipper sticks and a 3½-cubic yard dipper, and a 3½ cubic yard bucket, for dragline work. Smaller buckets are provided when the nature of the work makes it necessary to use booms



P&H MODEL 900.

of unusual length. All gears of the traction mechanism are completely enclosed in heavy cast steel gear cases and run in a bath of oil. Bearings in the lower structure are provided with renewable bronze bushings.

The model 900 is 14 feet 6 inches wide and the over-all length is 25 feet. It is convertible for use as shovel, dragline, crane, etc.

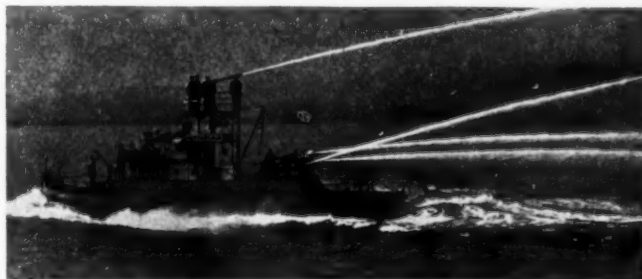
Fireboat for Vancouver.

A new fireboat, the "J. H. Carlisle," is now in commission as the first marine unit of the Vancouver fire department and a start in the development of a policy of fireboat protection advocated by Vancouver's fire chief, J. H. Carlisle. The boat is 60 feet, steel construction throughout, with a speed of 11 knots, with combined hydraulic and screw propulsion and a pumping capacity of about 6000 gallons per minute. It was built by the Burrard Drydock Company at North Vancouver from designs by Arthur Bennett, who also supervised construction.

Total horsepower is about 750, consisting of 6 cylinder 150 b.h.p. Sterling gasoline engine with 3 to 1 reduction gear for the propelling unit, and two 8 cylinder Sterling gasoline engines rated 300 h.p. each, driving the pumping units. The complete cost of the boat including machinery was \$52,440, including \$440 for alterations and extras, and this total cost was only \$75 above the designer's estimate. The boat has exceeded its guaranteed speed of seven knots by over two

knots with the propelling engine alone, and by four knots when using the monitors and pumping units to assist, and on its tests exceeded pumping requirements from 10 per cent to 15 per cent. Mr. Bennett expressed himself as pleased with the efficiency of the two stage DeLaval centrifugal pumps, and the reduction geared Sterling propelling engine also more than fulfilled his expectations.

By the use of high-speed engines, it has been possible to install very high power in so small a hull, where shallow



A SPEEDY FIREBOAT IN VANCOUVER SERVICE.

draft was a matter of prime importance. The 150 h.p. Sterling propelling engine develops its full power at 1800 r.p.m., which is reduced by gearing to 600 r.p.m. at the propeller shaft. The propelling and pumping engines are separate units, so that the boat can be manoeuvred while using full pumping power. The two 8-cylinder pumping engines are each direct-connected by flexible couplings to two-stage DeLaval centrifugal pumps with 10-inch suctions and 8-inch discharge pipes. It was required that these engines deliver at least 224 h.p. each at the pump shaft at 1400 r.p.m. in order that each pump should discharge 2600 g.p.m., which is 2168 imperial gallons.

Great Industries Select Baltimore.

Investment in new plant construction, as distinguished from local expansions, in Baltimore during the past 12 months, announced by H. Findlay French, director of the industrial bureau, Baltimore Association of Commerce, was considerably larger than during any similar period in the city's history, running to \$31,720,000, or 84.5 per cent of the entire sum reported for both new plants and the expansions of existing factories. Forty-four new industries were announced for 1928, with proposed labor requirements of 4245 workers. Also, 45 existing factories expended their facilities at an expenditure of \$5,805,000, necessitating new labor demands of 3519 workers. New industries and expansions combined, total a plant investment of \$37,525,000, and 7764 additional workers.

The new plant of the Western Electric Company, construction of which will begin shortly, is the greatest single industrial acquisition of the last 12 months. When completed, it will be the largest enterprise within the corporate limits of Baltimore, and second in size and importance only to the Sparrows Point plant of the Bethlehem Steel Company. Another announcement was the selection of Baltimore as the location of a branch factory by Procter & Gamble of Cincinnati, Ohio. This plant will involve the expenditure of many millions of dollars. Also, the Asiatic Petroleum Company will erect a \$1,000,000 asphalt and storage plant. The Tide-water Associated Oil Company also selected Baltimore as a center for a large distribution area. The Crown Cork & Seal Company, Inc., began an expansion program which will involve an expenditure of \$1,500,000. The Prudential Refining Corporation made improvements and additions to its plant at a cost in excess of \$1,000,000, and other major operations marked the year.

CONSTRUCTION DEPARTMENT

EXPLANATORY

Additional information is published about all enterprises mentioned in this department as soon as such data can be obtained.

The date at the end of an item indicates issue of the Manufacturers Record in which earlier facts about the same enterprise were published.

DAILY BULLETIN

The Daily Bulletin is published every business day to enable its subscribers to follow up promptly the industrial, commercial, railroad, financial, building and general business development of the South and Southwest. To machinery manufacturers and dealers, contractors, engineers and others who require daily information of every new enterprise organized and details about important additions to enterprises already established, the Daily Bulletin is invaluable. Subscription price, \$40.00 a year.

Airports, Airplane Plants, Etc.

Fla., Pensacola—Navy Dept., Bureau of Yards and Docks, E. W. Whitehorn, Ch. Clerk, advises that expansion of air station facilities is contemplated; appropriation of funds not yet made by Congress.

Ky., Louisville—Curtis Flying Service of Kentucky, Inc., capital \$50,000, chartered; John J. Davis, Inter-Southern Bldg.

La., New Orleans—Southern Aeronautical Service, Inc., Robert H. Polk, Pres., 601-3-5-7-9 Audubon Bldg., erect hangar, 90x18 ft., and several individual hangars; steel, conc. and metal, conc. floors, building and equipment cost \$80,000; receives bids about Mar. 1. See Want Section—Machinery and Supplies and Miscellaneous Supplies. 12-13

Md., Baltimore—Glenn L. Martin Co., Cleveland, Ohio, reported, relocate entire business here; establish plant with all new equipment, to be in operation in spring of 1929; temporary plant to occupy Canton Company warehouse near Colgate Creek. 12-13-28

Mo., Anglum—Oscar Johnson erect \$17,000 hangar; 1-story, 55x57 ft., conc. steel, brick, comp. roof; receives bids soon; McDonald & Condie, Archts., 261 Field Bldg., 502 N. Taylor Ave.

Mo., Joplin—Victory Aviation Co., incorporated; W. J. Stone and W. E. Roads.

Okla., Tulsa—Garland Aircraft Co., capital \$100,000, incorporated; R. F. Garland, Philtower Bldg.

Mo., St. Louis—American Aircraft Corp., Pittsburgh, Pa., establish air line between Pittsburgh and St. Louis.

Tex., Houston—Houston Aerial Transportation Corp., capital \$1,000,000, incorporated; W. L. Edwards, 1811 Bins St.; Fred H. McGinnis, 4004½ Caroline St.; plan expenditure of \$200,000 for improvement of Edwards field, Main St. near Bray's bridge, and purchase of three tri-motor planes; improvements include building runways, additional hangars, loading and unloading station on 150-acre field; establish regular air passenger service from Houston to Dallas.

Tex., Laredo—City, M. W. Brenham, Chmn. Airport Committee, erect hangar, including repair shop, garage, offices, sleeping quarters and locker rooms; hollow tile, stucco, steel roof framing, modified Spanish design; plans being drawn; Beretta-Stiles Co., Inc., Consulting Engrs., 1203 National Bank of Commerce Bldg. 1-3

Va., Danville—City Council appropriated funds for purchase of 98½-acre tract 3 mi. from city suitable for emergency landing field.

Bridges, Culverts and Viaducts

Proposed Construction

Ala., Gadsden—Etowah County plans \$200,000 toll bridge across Coosa River at Gilbert's Ferry, south of Gadsden.

Fla., Jacksonville—Ash, Howard, Needles & Tammen, Conslt. Engrs., 55 Liberty St., New York City, preparing plans for toll bridge over St. Johns River, Jacksonville. 1-3

Fla., Miami—City Commrs., H. E. Ross, Clk., plans 90-ft. timber bridge over Biscayne Canal, at N. E. Sixth Ave.; 20-ft. roadway, 5-ft. sidewalks.

Fla., Pensacola—Johnson-Drake & Piper, 865 Third Ave., N. St. Petersburg, and Minneapolis, Minn., who have franchise for \$2,000,000 Pensacola Bay Bridge, probably start work on span, Feb. 1. Lately noted War Dept., reported, approved plans. 12-6

Ga., Atlanta—City, B. Graham West, City Comptroller, plans constructing and re-constructing 6 bridges, underpasses, viaducts, etc. See Roads, Streets, Paving.

Ga., Fitzgerald—See Roads, Streets, Paving.

La., Merryville—Louisiana Highway Comm., Baton Rouge, receives bids soon for Interstate Sabine River Bridge, Route 22, between Beauregard Parish, La., and Newton County, Tex.; J. M. Fourmy, State Highway Engr.; N. E. Lant, Bridge Engr. 11-29

La., Natchitoches—City plans bridge across Cane River lake.

La., New Orleans—City, T. S. Walmsley, Commr. of Finance, receives bids Jan. 15 for vehicular bridge over Lamarque St. canal at Whitney Ave., Pacific Ave. and Lebonuef St., Algiers; plans from City Purchasing Div.

La., New Orleans—Allen S. Hackett, Conslt. Engr., 505 Whitney Central Bldg., and Geo. A. Hero, promoters of \$11,500,000 Hero-Hackett vehicular traffic bridge over Mississippi River, New Orleans, revised plans and filed permit for application to build span; elevation at center of span will provide 160-ft. vertical clearance above water level; 136-ft. clearance at harbor line; 1640-ft. horizontal clearance between piers. 11-29

Md., Baltimore—Chesapeake Bay Bridge Co., W. R. Bonsal, Pres., 1319 Continental Bldg., receives bids Jan. 12 for \$11,000,000 conc. bridge across Chesapeake Bay from near Back River to Hart and Miller's Island, Baltimore County; plans approved by Federal Government and State Roads Comm.; awaiting approval of Public Service Comm. of financial set-up and tolls. Lately noted bids Jan. 8. 12-27

Miss., Aberdeen—Monroe County Bd. of Supvrs. plans receiving bids soon for \$150,000 conc. bridge across Tombigbee River, U. S. Highway No. 76, east of Aberdeen; build 1 mi. conc. road.

N. C., Asheville—Buncombe County Commrs., J. G. Stikeleather, Highway Commr., plan underpass at Sulphur Springs grade crossing, on road from Beaucatcher Tunnel to State Highway No. 10, cost about \$40,000.

N. C., Asheville—Buncombe County Commrs. receive bids soon for 3 bridges. See Roads, Streets, Paving.

Tenn., Knoxville—J. E. Greiner & Co., Conslt. Engrs., Lexington Bldg., Baltimore, Md., submitted design of 8 piers and 9 spans for \$1,500,000 Henley St. Bridge over Tennessee River, to City Mgr. Otto Roehl. 12-13

Tenn., Knoxville—Knox County considering expending \$400,000 for 2 bridges; \$250,000 for McBee's Ferry Bridge near Mascot; Solway's Ferry bridge, between Knox and Anderson County. See Financial News.

Tex., Gainesville—State Highway Comm., Austin, plans doubling width of bridge near Dobkins Farm, 3 mi. north of city, on Highway No. 40, and constructing conc. piers; building bridge west of Lindsay, 7 mi. from Gainesville. Highway No. 5, replacing small bridge; John Timmons, State Highway Maintenance Foreman, in Cooke County, supervising work.

Tex., San Benito—Rio Grande Del Norte Bridge Co., L. D. Zenor, Sec.-Treas., will erect bridge over Rio Grande River, south of San Benito. 12-13

Tex., Tivoli—War Dept., Washington, D. C., approved plans State Highway Comm., Austin, for bridge across Guadalupe River, east of Tivoli.

Tex., Victoria—State Highway Comm., Austin, may receive bids in next 2 or 3 months for conc. Guadalupe River Bridge at foot of Moody St., Victoria; plans receiving bids soon for Coletto Creek Bridge; Gibb Gilchrist, State Highway Engr.

W. Va., Charleston—Kanawha County Court, R. N. Moulton, Clk., receives bids Jan. 18 for substructure only of Patrick St. Bridge No. 1139, over Kanawha River, Loudon Dist., Charleston; 5,282 cu. yd. excavation, 5,729 cu. yd. conc., 149,500 lb. rein. steel; L. L. Jemison, Bridge Engr., State Road Comm., Charleston. 11-8

Contracts Awarded

Tennessee—Dept. of Highways and Public Works, let contracts for 26 bridges. See Roads, Streets, Paving.

Tex., San Benito—City, J. Scott Brown, Mayor, let contract to Dodds & Wedegartner, San Benito, at \$2.45 per sq. yd. for 12,600 sq. yd. conc. paving; 30 cents per ft. for 4400 lin. ft. conc. curb, 20 cents per ft. for 13,400 sq. ft. conc. sidewalks.

Va., Hodge's Ferry—War Dept., Washington, D. C., approved revised plans State Highway Comm., Richmond, for bridge across western branch Elizabeth River, near Portsmouth, Norfolk County. Lately noted contract let. 1-3

Canning and Packing Plants

La., Bogalusa—Dorgan-McPhillips Packing Corp., constructing addition to canning plant.

Clayworking Plants

Ga., Stevens Pottery—Evans & Howard Fire Brick Co., 920 Market St., St. Louis, Mo., reported, acquired plants of Stevens Pottery.

Tex., Houston—Houston Brick Works, Inc., W. H. Lighthouse, Pres., Kansas and Clive St., plans \$25,000 brick plant on Crosby Rd., initial daily output 20,000 bricks; acquired properties of Houston Brick Works at Bringhurst and Cline Sts.

Cotton Compresses and Gins

Ark., Beebe—W. A. Gage, rebuild cotton gin, cost \$15,000.

Ark., McRae—McRae Gin Co., G. H. Jackson, Sec., will construct, with day labor, cotton gin with daily output 80 bales; 48x80 ft.; sheet iron, conc. floors; install \$15,000 equipment; Continental Gin Co., 4000 Fourth Ave., S., Birmingham, Ala., equipment contractors. See Want Section—Machinery and Supplies.

Okla., Gotebo—Farmers' Union Co-operative Gin, capital \$25,000, incorporated; Doyle Haxton, W. N. McMillan.

Tex., Beeville—E. B. Hall leased and will operate lower gin of Hall Industries.

Tex., Memphis—Memphis Compress Co., C. T. Makin, Mgr., install \$50,000 compress.

Cottonseed-Oil Mills

S. C., Chester—Southern Cotton Oil Co., main office Canal Bank Bldg., New Orleans, will probably rebuild mechanical portion of plant lately burned.

La., New Orleans—Gulf and Valley Cotton Oil Co., Inc., capital \$600,000, chartered; T. O. Asbury, 1701 Canal Bank Bldg.

Drainage, Dredging and Irrigation

Maryland—War Dept., Maj. Gen. Edgar Jadwin, Ch. Engr., Washington, D. C., allotted \$25,000 for maintenance dredging in Wicomico River.

Maryland—U. S. Engr. Office, 300 Custom House, Baltimore, receives bids Jan. 23 for dredging in Kent Island Narrows, Kent County. See Want Section—Bids Asked.

Maryland—U. S. Engr. Office, Wilmington, Del., has low bid from Delaware Dredging Co., 139 S. Third St., Philadelphia, Pa., for dredging approx. 120,370 cu. yd. for 2 turning basins in inland waterway from Delaware River to Chesapeake Bay, Delaware and Maryland (Chesapeake and Delaware Canal), at .265 cents per cu yd.

N. C., Wilmington—U. S. Engr. Office, Wilmington, N. C., receives bids Feb. 9 for dredging Sections One and Two of Intracoastal Waterway, from Beaufort to Cape Fear River.

Texas—War Dept., U. S. Engr. Office, Galveston, Tex.—Bids Feb. 1 for dredging Sec-

tions One and Two, of Houston Ship Channel, between Morgan Point and Bolivar Roads. See Want Section—Bids Asked.

Tex., Houston—See Gas and Oil Enterprises.

Tex., Houston—Lake Arthur Dredging Co. begin work soon on deepening and widening of shallow draft canal between Turning Basin and Main St.; specifications call for deepening the bayou uniformly to 10 ft. and widening to a minimum at bottom of 60 ft. 11-22

Electric Light and Power.

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Ala., Birmingham—Alabama Power Co., Thomas W. Martin, Pres., reported, expend \$17,000,000 during 1929; major projects include completion of Gorgas steam plant on Warrior River, with initial installation of 80,000 h. p., and reconstruction of lower Tallapoosa development with initial capacity of 84,000 h. p., scheduled for completion in 1930; additions to sub-stations; high tension transmission lines and low voltage lines.

Fla., Tampa—Tampa Electric Co., Tampa and Cass St., installing white way on Twigg St. from Tampa St. to Union Station; day labor; cost \$16,000. 1-3

Ga., Dalton—King White Way Co., Sheffield, Ala., has contract for material for white way on Hamilton St. 12-27

La., Baton Rouge—Solon Farnbacher, I. M. Causey, 735 Union St., and others interested in white way on Main St.

Miss., Chunky—Mississippi Utility Co., Lamar Life Bldg., Jackson, reported, construct hydro-electric plant on Chunky River; Harrison Wright Co., low bidder at \$185,000.

Mo., St. Louis—Bd. of Public Service received bid from E. A. Brunson Const. Co., 1976 Railway Exchange Bldg., at \$24,421 for substation Kingshighway and Easton Ave.; 1 story and basement, brick, 26x60 ft., and 1 story garage, 40x26 ft. 12-6

Oklahoma—Oklahoma Gas and Electric Co., Oklahoma City, J. F. Owens, V. P. and Gen. Mgr., plans extensive improvements to lines and power plants in 1929; construct 15 new substations to reduce voltage on high voltage lines and enable distribution lines to be built to many smaller communities; construct high voltage line from near Garber to Enid, providing additional service for new flour mills; rebuild line between Hennessey and El Reno; additions and extensions to offices and equipment at Enid, Sapulpa, Muskogee, Shawnee, Ardmore and Durant; 3-story heavy stores building in Oklahoma City; complete downtown underground system; rehabilitate distribution system in Alva.

Okla., Anadarko—City may issue \$110,000 bonds for electric light plant, water works.

Okla., Blackwell—Drainage and Irrigation Comm., Oklahoma City, granted permit to city to build 2 dams on Chikaska River, 6 mi. north of here for purpose of flood control and providing water power for city industries; cost \$500,000.

Okla., Tonkawa—City votes soon on electric light bonds. 11-8

Tennessee—Holston River Power Co., 52 Wall St., New York, reported, plans expenditure of \$15,000,000 in next 3 years for development of hydro-electric power in East Tennessee; filed application with Railroad and Public Utilities Comm., Nashville, for certificate of necessity and convenience for construction of 3 dams, No. 1 to be located 6 mi. above Kingsport, 79 ft. high, generate 24,000 hp.; No. 2 at confluence of South Fork and Holston Rivers, with elevation of 135 ft. and capacity 30,000 hp.; No. 3, above Bluff City in South Fork River, with an elevation of 130 ft. and capacity of 20,000 hp. 7-21-27

Tenn., Chattanooga—Henry L. Doherty & Co., 60 Wall St., New York, advises regarding Tennessee Eastern Electric Co.'s Hemlock development on Holston River, active plans for construction are pending decision of Tennessee Railroad & Public Utilities Comm., Nashville, on an application for certificate of convenience and necessity and on Federal Power Comm., Washington, on application for permit; preliminary plans include conc. dam of gravity type, 1250 ft. long, operating at head of 100 to 110 ft.; reservoir area will be about 2000 acres; estimated total expenditures \$6,000,000.

Tex., Denton—City let contract to Denton Electric Shop for switchboard and motor

generation for power and light plant; approved plans by J. P. Greenwood, Dallas, for building to house power, light and ice plants, will open bids Jan. 7 for construction. 12-27

Virginia—Virginia Electric and Power Co., Richmond, reported, expend \$15,000,000 in expansions to system and in additions and replacements to properties in 1929 and 1930; plans being made for beginning construction in early part of 1930 on Roanoke River hydro-electric developments, cost \$7,000,000, with production of 25,000 kw.; expansion in 1929 provides for purchase of street cars, buses, power and other equipment and improvements to 600 miles of transmission line extending into North Carolina on south and to Ocoquan on north. 12-27

W. Va., Rainelle—Virginia Public Service Co., Charlottesville, Va., extending power line to Renids, through Frankfort, 3 phase wood pole, operating at 6600 volts.

Fertilizer Plants

Fla., Fernandina—Fish Meal Co., capital \$100,000, incorporated; W. B. Blade, W. A. Mace; reported, erect menhaden fish plant.

Flour, Feed and Meal Mills

Mo., Kansas City—E. H. Sullivan Grain Co., Inc., capital \$100,000, chartered; E. H. Sullivan, 611 E. 61st St.

Tex., Austin—Joseph Freeman, San Antonio, and D. D. Baker, Seguin, acquired Quality Flour Mills; will remodel and operate.

Foundry and Machine Plants

Ky., Louisville—Hart Manufacturing Co., Paul E. Thompson, Sec. Traps. and Gen. Mgr., 2006 High St., manufacturers of furnaces and heating equipment, acquired stove business of Peerless Manufacturing Co.

Va., South Boston—Boston Machine and Foundry Co. acquired site, Wall St., erect foundry.

Gas and Oil Enterprises

Ark., Conway—Gulf Refining Co., Houston, Tex., plans warehouse and 2 oil storage tanks.

Ark., Little Rock—Little Rock Refining Co., C. N. Faubel, Pres., 505 A. O. U. W. Bldg., has preliminary plans for \$64,000 refinery on Missouri Pacific spur track; 1-story, brick and sheet metal; install machinery; opens equipment bids in Feb. 12-13

Ark., Monticello—F. D. Shanks, representative of Arkansas Natural Gas Corp., El Dorado, applied for 25-year gas franchise.

Ark., Russellville—City votes Jan. 17 on granting gas franchise to Public Utilities Corp., subsidiary of Arkansas Natural Gas Corp., Ardis Bldg., Shreveport, La. 12-20

D. C., Washington—Cities Service Co., 60 Wall St., New York, acquired plants and business of Republic Oil Co. at Washington; will operate Republic properties in Washington and Virginia; plan extensions.

Fla., Lake City—Consumers Oil Co., incorporated; J. A. Leslie, A. J. Rountree.

Ky., Owensboro—Owensboro Gas Co., incorporated; E. B. Cochran, R. L. Blackwell, both Louisville.

La., Monroe—Grecian Bend Gas Co., Inc., capital \$24,000, chartered; W. L. Etheridge, 2101 St. John Dr.

La., Shreveport—Falcon Oil Co., Inc., capital \$50,000, chartered; S. C. Fullilove, Slatery Bldg.

Md., Baltimore—Atlantic Petroleum Corp., 65 Broadway, New York, advises have decided to proceed with foundation work for new plant with own forces; contract for superstructure will be let later, probably in about 2 weeks. 12-13

Miss., Woodville—Town let contract at \$20,800 to Walker Bros. Co., Hammond, La., for natural gas distribution system, work to begin Jan. 15; Walker Bros. Co., also Const. Engrs. 12-27

Mo., Springfield—Texas Oil Co., reported, erect \$250,000 distribution plant.

N. C., Hickory—Whitlock Construction Co., Flagler Bldg., advises beginning construction of 500,000 cu. ft. capacity plant in Hickory to serve Hickory, West Hickory, Highland, Newton, Conover, Granite Falls and Lenoir; system will be high pressure throughout and will be water gas plant; cost \$350,000; engineer in charge of installation, A. A. Whitlock; plant is being constructed for Piedmont Utilities Co., Inc. 1-3

Okla., Bartlesville—Empire Companies, reported, announced Empire Pipeline Co., a subsidiary, will construct 33 mi. of 8-in. crude oil pipe line extending from Cimarron station, 8 mi. northeast of Guthrie to field station to be erected 5 mi. northeast of Oklahoma City; install 15,000 bbl. storage

tank; connect at Cimarron with Empire's main crude oil pipeline system; field station near Oklahoma City, to be electrically operated; erect company houses.

Okla., Oklahoma City—Jim Hogg County Oil Co., incorporated; C. A. Methven, 1114 W. 24th St.

Okla., Sapulpa—Apex Oil and Gas Co., incorporated; B. C. Burnett, C. H. Hartman.

Tenn., Morristown—City, reported, granted 50 year franchise to Arthur J. Smith, 2933 Drexel Blvd., Chicago, Ill.; will construct, and operate gas distributing system.

Texas—Texas Natural Gas Co., W. W. Blocker, Pres., Houston, reported, has taken over distributing lines and properties of Houston Natural Gas Co., at Victoria, Beeville, Edna, Wharton and Richmond.

Texas—Tex-Mex Natural Gas Co., McDonald Meachum, Pres., Houston, reported, has taken over distributing lines and properties of Houston Natural Gas Co. in Kingsville, Alice, San Diego and Agua Dulce.

Texas—El Paso Natural Gas Co., El Paso, reported, let contract to J. J. Connor & Son Construction Co., 407 Security Bldg., Kansas City, Mo., for construction of 105 mi. of 16-in. pipe line in Southeastern New Mexico and Southwestern Texas and 220 mi. telephone line; Joslyn Manufacturing and Supply Co., 18th and Iron Sts., North Kansas City, has contract for poles for telephone line; Standard Underground Cable Co., Bd. of Trade Bldg., Kansas City, Mo., for insulation, wire and cable; construction work to begin at Clint, Tex., in about a week. 12-20

Texas—Gulf Cities Natural Gas Co., David Hannah, Pres., Houston, reported, has taken over distributing lines and properties of Houston Natural Gas Co. at Laporte, Goose Creek, Pelly, Texas City, Brazoria and Freeport.

Tex., Dallas—See Roads, Streets, Paving.

Tex., Houston—Shell Petroleum Co., Shell Bldg., St. Louis, Mo., will have slip dredged by Atlantic Gulf and Pacific Dredging Co., Gulf Bldg., on Ship Channel at site of proposed refinery; slip will be 30 ft. deep, with accommodations for 6 ships; 250 ft. wide and extending 2000 ft. 12-27

Tex., Midland—J. H. L. Oil Co., capital \$120,000, incorporated; Lee Harrison, Midland; J. H. Johansen, Dallas.

Tex., Perryton—C. D. Foote, Shamrock, has option on gas franchise.

Tex., San Antonio—San Antonio Public Service Co., reported, expend \$200,000 for extension of high pressure gas mains, approximately 9 miles, 44,200 ft. of 16-in. main and 3000 ft. of 12-in. main.

Tex., Silverton—West Texas Gas Co. renewed franchise with city; begin construction of gas line.

W. Va., Clay—Reed, Wheeler, Young Oil & Gas Co., James Reed, Pres., let contract to W. A. Bickerstaff, Harrisville, at \$10,500 for pipe lines. See Want Section—Miscellaneous.

W. Va., Clay—Wheeler Gas Co., incorporated; G. B. Wheeler, Hazard, Ky.; Cora D. Wheeler, Clay.

Ice and Cold-Storage Plants

Ky., Lexington—Lexington Utilities Co., erect \$20,000 storage plant on site of old plant, London Ave.; to be used for storage of ice, 5,000-ton capacity.

Miss., Hollandale—Glen Allen Ice Co., E. W. Scott, Mgr., erect ice plant; cost \$27,000; 10-ton capacity.

Tex., Corpus Christi—Lone Star Fish and Oyster Co., 620 Water St., erect \$12,000 ice plant.

Tex., El Paso—Abdou Poultry and Produce Co., 700 S. Santa Fe St., erect \$250,000 cold storage plant and warehouse; cost \$250,000; 3-story and basement.

Tex., Munday—E. J. Roberts, Munday, and 3600 Hemphill St., Fort Worth, let contract to Murphy & Murphy, Mineral Wells, for \$32,000 ice plant; 1-story, conc., brick, steel; 20 ton capacity.

Iron and Steel Plants

Ala., Ensley—Tennessee Coal, Iron and Railroad Co. let contract to Rust Engineering Co., 606 Grant St., Pittsburgh, Pa., for \$200,000 triple-fired recuperative continuous furnace at works here; have capacity of 30 tons per hour of blooms or beam blanks.

Ky., Louisville—Anti-Checking Iron Corp., capital \$50,000, incorporated; W. H. Bowman, 1572 Cherokee Road.

Tenn., Memphis—Wheeling Steel Corp. of Tennessee, R. O. Lewis, Mgr., subsidiary of Wheeling Steel Corp., Wheeling, W. Va., acquired 11-acre tract, south of Riverside Park on Mississippi River, establish \$200,000 river and rail terminal; let excavation

contract to Hughey Bros. Const. Co., 971 James St.; soon award general contract.

Land Development

Ala., Birmingham—Scott Realty Co. incorporated; Dan I. Scott, 815 Fifth Ave., N.

Ala., Gadsden—Gadsden Properties, Inc., chartered; W. J. Hullett, George A. Blinn; develop east side subdivision.

D. C., Washington—North Washington Realty Co., E. Brooke Lee, Pres., Silver Spring, Md., develop subdivision Sixteenth St. and Kalma Road and Sligo Park Hills.

Fla., Crestview—Crestview Farms & Orchards, Inc., chartered; Theodore W. Bunte, J. M. Kraftjefer.

Fla., Dania—West Dania Land Co. incorporated; Robert J. Davis, H. G. LaBree.

Fla., Fort Lauderdale—Musselcorp. incorporated; A. J. Musselman, J. H. Grant.

Fla., Live Oak—Suwanee Land Co., incorporated; J. E. Johnston, S. A. Fender.

Fla., Melbourne—Heild Bros. Land Co., Inc., chartered; L. L. Richmond, A. H. Levy.

Fla., Ocala—Levy-Lennon Syndicate, Inc., chartered; B. A. and M. M. Meginniss.

Fla., St. Petersburg—Vannar Properties, Inc., chartered; Wm. G. King, Magnolia Arcade.

Fla., Tampa—Edgewood Subdivision, Inc., chartered; R. L. Bryant, 214 E. Palm Ave.

Ga., Macon—Suburban Realty Co. incorporated; E. G. Jacobs, 318 Vineville Ave.

Ky., Jackson—Breathitt Realty Co., capital \$20,000, incorporated; Charles Terry, W. H. Pelfrey.

Ky., Madisonville—Pope Development Co., capital \$100,000, incorporated; F. M. Curtis, J. H. Kennedy.

La., Mound—Louisiana Delta Farms, Inc., chartered; Louis Citro, 3543 W. Jackson Blvd., Chicago, Ill.; Maxwell Yerge, Tallulah.

La., Monroe—Renwick Realty Co., Inc., capital \$25,000, chartered; Joe Renwick, De Siard Rd.

La., New Orleans—James Realty Co., Inc., capital \$25,000, chartered; James Thomas, 312 Gravier St.

La., New Orleans—Success Realty Co., Inc., chartered; F. Aug. Wellbaecher, Maison Blanche Bldg.

La., New Orleans—Ethel Realty Co., capital \$45,000, incorporated; Mrs. Chas. T. Hardie, Mrs. Abel S. Donnaud.

La., New Orleans—LeBlanc Planting Co., Inc., capital \$100,000, incorporated; Gesner and O. J. LeBlanc.

La., Shreveport—Spring Lake Land Co., Inc., capital \$200,000, incorporated; R. H. Deas, Slattery Bldg.

La., Oakdale—Paradise Colonization Co., Shreveport, develop 650 acres in citrus fruits, etc.

Md., Annapolis—T. W. Phumphy, Jr., Brooklyn, A. A. Co., Md., acquired 160 acre tract on Severn River.

Md., Rockville—Judge Harry J. Hunt and Richard C. D. Hunt acquired 36 acres on Rockville Pike.

Mo., Clayton—Northland Development Co., incorporated; A. L. McCawley, 501 W. Central St., Carthage; Robt. E. L. Marrs.

Mo., Kansas City—Jewell Armour Realty Co. incorporated; Wm. R. Jewell, Sr., Blue Ridge Blvd.

Mo., Kansas City—J. F. Houlehan, Inc., capital \$17,000, chartered; C. F. Adams, 1222 Oak St.

Mo., Kansas City—Frederick A. Eyssell Estates, Inc., capital \$400,000, chartered; Henry O. A. Eyssell, 1607 Arlington St.

Mo., Kirksville—Kirksville Cemetery Assn. incorporated; H. M. Still, Wilmont Reed.

Mo., St. Louis—Fourman Realty Co., incorporated; Louis Tackser, Wainright Bldg.

Mo., St. Louis—Frank J. Wiget, 3648 S. Grant St., acquired 12½ acres on Bingham Ave.

N. C., Asheville—Ada Corp. chartered; L. H. Pollock, 24 Chiles Ave., Kenilworth.

N. C., Hendersonville—Bright Water Farms, Inc., capital \$100,000, chartered; S. J. Childs, St. Petersburg, Fla.; D. S. Morrison, Hendersonville; operate farms, gardens, orchards.

N. C., Wilmington—Hugh MacRae & Co., Inc., capital \$500,000, chartered; Hugh MacRae, Murchison Bank Bldg.

N. C., High Point—Provident Realty Co., capital \$25,000, incorporated; C. H. Ellis, Roland Park.

Okla., Bartlesville—City Commrs. plan expending \$75,000 improvements athletic field, covering of storm sewer through children's park, acquisition additional park land.

S. C., Calhoun Falls—Ben H. Atwell, Director of Public Relations, Calhoun Falls, Inc., announced awarding of contracts covering development of industrial city project at Calhoun Falls, S. C., and all year round resort across Savannah River at Calhoun Falls, Ga.; work will cover number of years of activity and will involve expenditure of \$14,000,000 in translating land into factories and homes; general contract for clearing, grading sidewalks, sewers, water distribution and pavement let to Winterbottom-Connelly Co., 1406 W. 25th St., Cleveland, O., for work covering 20 sq. miles in Abbeville and McCormick Counties, S. C.; work to begin at once; plan artesian well water system; Edwin H. Gerstacker, Field Engr. in Charge, and Charles E. Evers, Cleveland, O., Office Engr. 11-1

S. C., Charleston—West Shore Development Committee, Dr. Roy E. MacElwee, Chrmn., 45 E. Bay St., plans development of all property between Tradd St. and Mount Pleasant; construct seawalls, fill in marsh lands, build polo field, playgrounds, etc.

Tenn., Chattanooga—Southern Realty Co., capital \$50,000, incorporated; S. R. Dow, Crestwood Drive.

Tenn., Chattanooga—Boyd-Watkins Co., Fred B. Frazier, Volunteer Life Bldg., organized to build golf courses throughout this country.

Tex., Houston—R. C. Burrows, Sec., Houston Land Corp., Post-Dispatch Bldg., acquired 17 acre tract on W. Alabama Ave.

Tex., Houston—Henry Hutchinson, Landscape Archt., preparing plans for development of Rebecca Meyer Park.

Tex., League City—Galveston County Commrs. plan early construction of buildings, roads and other facilities in county park on Clear Creek; negotiating for 100 acres for golf course.

Tex., Marshall—Dr. Arthur Smith having surveys made by Frank P. Daugherty, City Engr., for development of Victory Drive; construct golf course, swimming pool, etc.

Tex., Schertz—W. Schertz and L. E. Fite & Co., 317 W. Commerce St., San Antonio, developing subdivision, install water and gas distributing system.

Tex., Winter Haven—Winter Garden Development Co., Ted E. Logan, Sec., has 21,000 acres adjoining Winter Haven, develop 2000 acres for citrus fruits; 160 acre tracts to be cleared, plowed, 1 well installed in each tract for irrigation; expend \$100,000. See Want Section—Machinery and Supplies.

Va., Clarendon—Arlington County Bd. of Supervisors approved application for enlarging Columbia Garden Cemetery; pave streets, etc. 11-22

W. Va., Flemington—Getty Land Co., capital \$50,000, incorporated; E. H. Reppert, Flemington; Frank C. Kittle, Phillipi.

W. Va., Martinsburg—Rosedale Cemetery Co., capital \$25,000, incorporated; Floyd L. Hawkins, J. McNevin Kilner.

Lumber Enterprises

Mo., Festus—Clover Leaf Lumber Co., capital \$25,000, incorporated; Stanley M. Masters, 1474 Arcade Bldg.

Mo., St. Louis—Fry-Fulton Lumber Co., incorporated; Thomas W. Fry, 6420 Cecil St.

N. C., Trinity—Auman Lumber Co., capital \$100,000, incorporated; Frank Auman, Seagrave; A. B. Cox, Trinity.

S. C., St. Matthews—Bradley Lumber Co., E. W. Milford, Pres., Greenwood, erect planing mill, boiler house, office, lumber sheds, etc.; planing mill, 20x70 ft.; frame, conc. floors, metal roof; work by company's forces; construction begun.

Ten., Memphis—J. V. Stimson Hardwood Co., increasing capital, \$600,000 to \$700,000.

Tex., Clarksville—Southern Pine and Lumber Co., Texarkana, Ark., owning extensive acreage of pine in Red River and Bowie Counties, erect plant here; will employ several hundred men.

Mining

Fla., Mulberry—Coronet Phosphate Co., 99 John St., New York City, and Pembroke, Fla., advise regarding mining operations, new washer will be constructed near Mulberry and operation begun some time this year; mining will actually begin when Pembroke area is completed; no change in status of operation as rock from Mulberry area will be hauled to Pembroke plant and prepared for shipment. 12-27-28

Mo., Joplin—Builders Mining Corp., capital \$60,000, incorporated; John Glynn, Joplin; T. B. Merrill, Tulsa, Okla.

Okla., Quapaw—Ilhawa Mining Co., capital \$20,000, incorporated; Jack Hawthorne, Sid Walker.

Va., Roanoke—Marlbrook Lime Co., Inc., capital \$100,000, chartered; J. A. Jamison, Colonial Natl. Bank Bldg.; quarrying, manufacturing, buying and selling limestone, lime and marl.

Miscellaneous Construction

Md., Baltimore—Bd. of Awards receives bids Jan. 23 for extending tracks of Western Maryland Railway Co. into \$4,000,000 pier being built for company at foot of McComas St.; includes grading, paving and underground construction.

Missouri—U. S. Engr. Office, Kansas City, receives bids Jan. 25 for pile clump dikes and revetment in Missouri River at Baltimore Bend, about 2 mi. from Hodge.

Missouri—U. S. Engr. Office, Kansas City, receives bids Jan. 22 for constructing standard pile clump dikes and standard revetment in Missouri River, Moberly Bend, 2 mi. from Hodge, Mo. See Want Section—Bids Asked.

Mo., Hermann—U. S. Engr. Office, Kansas City, receives bids Jan. 28 for dikes in Missouri River at Hermann Reach, near here. See Want Section—Bids Asked.

S. C., Charleston—Ch. Engr., U. S. Army, Washington, D. C., authorized construction of pier at Castle Pickney, Charleston Harbor, to be crescent piles and timber; receives bids soon.

Tex., Dallas—Levee—See Roads, Streets, Paving.

Tex., San Benito—San Benito-Point Isabel Navigation Dist. has been created and has voted \$500,000 bonds for port development.

Tex., Texas City—Texas City Terminal Railway Co., H. B. Moore, Pres. and Chmn. of Bd., let contract to C. R. Berry & Co., Keystone Bldg., Houston, for 2-story rein. conc. warehouse on company's pier; 120x1160 ft.; Automatic Sprinkler Corporation of America, Engineers Natl. Bank Bldg., Cleveland, Ohio, has contract for automatic sprinklers. 12-27

Miscellaneous Enterprises

Ala., Birmingham—Alabama Boiler and Construction Co., capital \$30,000, incorporated; Mrs. M. M. Wood, 517 N. 22nd St.

Ala., Gadsden—Goodyear Tire and Rubber Co., Akron, Ohio, reported, let contract to E. M. Beckham, Perry, Ga., for grading in connection with tire manufacturing plant; contract calls for moving 10,000 yds. of dirt from site of first unit. 1-3

Ala., Gadsden—Stringer Bros. erect second unit to plumbing specialties plant in East Gadsden; cost \$125,000.

Ark., Conway—L. S. Dunaway acquired Conday Times, newspaper.

Fla., Canal Point—Southern Sugar Co., B. G. Dahlberg, Pres., 645 N. Michigan Ave., Chicago, reported, erect 2500-ton sugar mill in 1929; plans now being formulated by Wm. Johnston, V.-Pres. of company.

Fla., Jacksonville—McDonald Tractor Equipment Co., incorporated; H. L. McDonald, 1468 Edgewood Ave.

Fla., St. Petersburg—Dickson's West Indies Tours and Steamship Co., capital \$250,000, incorporated; C. H. Dickson, J. T. Monaghan.

Ga., Columbus—Provision Co., T. G. Strange, Pres., Box 1104, erect packing house products plant; 120x130 ft., brick and conc. conc. floors, gravel roof; plant and equipment to cost \$75,000.

Ky., Hazard—Shields Construction Co., capital \$25,000, incorporated; P. R. Shields, George H. Saufey.

Ky., Louisville—Robbins Engraving Co., 143 S. Fifth St., changing name to Robbins-Pope Engraving Co. and increasing capital, \$30,000 to \$50,000.

Ky., Murray—Murray Milk Products Co. plans erecting milk plant.

Ky., Owensboro—Owensboro Publishing Co., Lawrence W. Hager, Editor and Publisher, formed by merger of Owensboro Messenger and Owensboro Inquirer.

La., New Orleans—Pellerin Laundry Machinery Co., Inc., capital \$20,000, incorporated; Willis A. Pellerin, 2706 Palmer Ave.

La., New Orleans—R. D. Pitard Hardware Co., Inc., capital \$25,000, chartered; P. Earl Chartier, 5709 Catina St.

La., Shreveport—Electric Signs—Claude Neon Federal Company of Shreveport, Inc., capital \$30,000, chartered; J. O. McFaddin, 2638 Line St.

Md., Baltimore—Western Electric Co., Edgar S. Bloom, Pres., 195 Broadway, New York, reported, begin work Jan. 15 on proposed telephone cable and wire manufactur-

ing plant; H. K. Ferguson Co., Hanna Bldg., contractors for design and construction. 12-20-28

Md., Baltimore—Theo. Ahrens, Pres., Standard Sanitary Mfg. Co., Louisville, Ky., advises have not come to any definite decision as to merger with American Radiator Co., 40 W. 40th St., New York City, or on what basis that should be done. 12-27

Md., Baltimore—Premier Insurance Corporation of America, capital \$1,000,000, incorporated; Layton F. Smith, Francis K. Murray, Edwin Eareckson, Jr., all Fidelity Bldg.

Md., Cumberland—Potomac Candy Co., capital \$25,000, incorporated; Thomas J. Whelan, Westernport; F. Wilmoth McKone, Piedmont, W. Va.

Miss., Hattiesburg—Tuf-Nut Garment Mfg. Co., 312 Rock St., Little Rock, Ark., will establish 50-machine garment plant; W. O. Tatum, Chmn., Industrial Affairs Comn., Chamber of Commerce, advises local citizens will invest \$115,000; construction may start Mar. 15. 11-29

Mo., Kansas City—Advertising—R. J. Potts & Co., capital \$25,000, incorporated; R. J. Potts, 1004 Baltimore Ave.

Mo., Kansas City—Jordan Fabric Manufacturing Co., capital \$10,000, incorporated; C. J. Jordan, 3229 S. Benton St.; manufacture automobile seat covers, tops, awnings, etc.

Mo., Kansas City—American Savings Life Insurance Co., R. S. Tiernan, Pres., formed by merger of Equitable Savings Life Insurance Co. and American Savings Life Insurance Co.

Mo., St. Louis—Missouri Pattern Works, Inc., chartered; F. W. Burgdorfer, P. Johannes, Jr., 4808 Jackson St.

Mo., St. Louis—Sugar Products—Sargent-Henderson Co., capital \$25,000, incorporated; R. J. Sargent, 4456 McPherson St.

Mo., St. Louis—Retzbach Patented Paper Products, Inc., capital \$50,000, incorporated; Edward J. Retzbach, Cuthbert Dixon.

Mo., St. Louis—Steelcoke Manufacturing Co., 3418 Gratiot St., let contract to J. N. Bright Contracting & Building Co., 1821 Arcade Bldg., for 2-story addition to plant; 60x100 ft., conc. roof; cost \$19,000; Hellmuth & Hellmuth, Archts., DeMenil Bldg.

N. C., Boone—W. F. Miller, North Wilkesboro, acquired Boone Kraut Factory, plans expanding; erect brick building, install machinery; during canning season present plant employs about 20.

N. C., Charlotte—Schlitz Construction Co., capital \$25,000, incorporated; Lloyd L. Petty, 1605 Craighead Ave.

N. C., Charlotte—Carolina Candy and Cigar Corp., capital \$100,000, incorporated; W. W. Grier, 106 Hopedale Ave.; John R. Shuford.

N. C., Goldsboro—Goldsboro Battery Co., capital \$25,000, incorporated; J. A. Doughten.

N. C., Durham—Contractors—Lawrence Roofing and Supply Co., capital \$100,000, incorporated; T. H. Lawrence, 811 Watts St.

N. C., Lexington—Davidson County Creamery Co. erect creamery, Main St.

N. C., Lumberton—Brock, Allen, Page Tool Co., Inc., capital \$75,000, chartered; E. R. Brock, Herod Allen.

N. C., Rocky Mount—Fireside Ice & Fuel Co., capital \$50,000, incorporated; C. S. Brady, Mrs. Bertha Emery.

N. C., Spruce Pine—Kraft Cheese Co., C. H. Kraft, V.-Pres., 400 Rush St., Chicago, Ill., advises not planning to establish cheese plant in vicinity of Mitchell, Avery and Yancey Counties at this time. 12-27

N. C., Winston-Salem—Old Dominion Paper Box Co., Inc., 22 Ninth St., Lynchburg, Va., acquired Carolina Paper Box Co.

Okla., Muskogee—Swift & Co., Chicago, Ill., let contract to J. H. Reddick, Kennedy Bldg., Fort Smith, Ark., for \$100,000 produce plant; 4-story, 86x128 ft. and basement 51x86 ft.; install engines, boilers, large dynamo and electrical machinery and equipment in basement; use first floor for creamery, second floor for cold storage, third floor for storage and poultry and fourth for poultry feeding; pack Brookfield butter, eggs and dressed poultry; employ 60 to 75; work under supervision of W. J. Dettweiler; private plans. 12-13

Okla., Oklahoma City—Boiler Safety Device Equipment Co., capital \$50,000, incorporated; R. J. McAusland, 400 East E St.

Tenn., Chattanooga—Aluminum Products Corp., capital \$25,000, incorporated; R. C. Wheeler, 301 Barton Ave.

Tenn., Chattanooga—Orange Crush Bottling Co. acquired Orange Crush Co.; company applied for charter to manufacture, buy, sell, bottle and deal in Orange Crush and other soft drinks, capital \$100,000; Joe Pope, Pikeville, Tenn.; E. M. Williamson, Dayton, Ohio.

Tenn., Knoxville—Following companies planning merger: Regal Manufacturing Co., 310-312 State St., mfrs. of men's overalls; Reliance Overall Co., 325-327 Central St., mfrs. of boys' overalls; Resolute Shirt Co., 325-327 S. Central St., mfrs. of work shirts; Frank McCleneghan to head new corporation.

Tenn., Knoxville—Oliver King Sand and Lime Co., reported, make expansions to plant during 1929; program includes construction of 2 additional concrete bins to hold 400 truck loads of sand, completely equipped machine shop in new fireproof building, addition of new movable floating screen plant, installation of third steam boiler to operate stationary screen derricks and 2 new boilers for loading station.

Tenn., Knoxville—Chamber of Commerce interested in establishing clothing factory and shoe factory.

Tex., Fort Worth—Ralston Purina Co., Inc., 835 S. Eighth St., St. Louis, Mo., let contract to C. M. Davis, Cotton Exchange Bldg., for 8-story addition to manufacturing plant and 200,000 grain elevator. 11-27

Tex., Gunter—Joe Gipson acquired Gunter Star, weekly newspaper; establish weekly newspaper at Ropes, southwest of Lubbock.

Tex., Port Arthur—Orange Crush Corp., W. D. Boost, V.-Pres., Chicago, Ill., probably erect \$400,000 beverage manufacturing plant during 1929 on Sabine-Neches ship canal, east of here, on property owned by H. W. Gilbert, Gilbert Bldg., Beaumont, and John Henning, Lake Charles, La.; export Orange Crush to South America.

Tex., Tyler—Chamber of Commerce completed plans for capitalization and organization of \$200,000 milk products plant; soon select site and begin erection; Chamber of Commerce to contract with Douthitt Engineering Co., 100 W. Monroe St., Chicago, Ill., holding portion of stock in plant, for construction of building and installation of equipment for making powdered milk and by-products; cost approx. \$175,000. 12-13-23

Tex., Waco—Borden Co., 350 Madison Ave., New York City, advise will start construction condensed milk plant as near Jan. 15 as possible. 12-6-28

Va., Marion—Marion Orange Crush Bottling Co., capital \$15,000, incorporated; James R. Shanklin.

Vo., Richmond—Southern Asbestos Manufacturing Co., Inc., acquired property, 306 E. Main St.; plans improvement.

W. Va., Bluefield—Industrial Building Corp., incorporated; J. H. Hoge, 2301 Bland Road.

W. Va., Wheeling—E. I. Runner Co., capital \$10,000, incorporated; Earle I. Runner, 808 Warwood Ave.; manufacture druggists and physicians supplies and surgical apparatus.

Motor Bus Lines and Terminals

Ark., Little Rock—Southwestern Transportation Co., subsidiary of St. Louis Southwestern Railway Co., Daniel Upthegrove, Pres., St. Louis, Mo., probably erect bus terminal, Seventh and Scott St. during 1929.

Ky., Owensboro—Thoroughbred Bus Line Co., Inc., Louisville, operating line from Louisville to Owensboro, acquired Owensboro-Henderson bus line; connection with Paducah to be made at Henderson and with Louisville at Owensboro from points in Western Kentucky.

Missouri—Missouri-Oklahoma and Texas Bus Co., Fort Worth, applied to State Public Service Comn. to operate through Missouri as interstate bus line.

N. C., Raleigh—Carolina-Virginia Coach Co. incorporated; H. H. Hearn, W. H. Pitman, 1000 W. Cabarrus St.

Tenn., Knoxville—Tennessee Coach Co., Al Kraemer, Pres., acquired Southern Motor Coach Co. and White Arrow Line, operating between Knoxville and Chattanooga and between Knoxville and Rockwood and Oneida, and consolidated them with company's Knoxville-Johnson City line; new concern to be known as Terminal Corp.; enlarge bus terminal to twice its present capacity, to cost \$100,000; plans call for extension of structure over whole property, 100x132 ft., present building occupies half of space; provides terminal space for 20 busses, management offices to be installed above waiting room.

Tex., Fort Worth—A. P. Barrett, Pres., Dixie Motor Coaches, Inc., and Texas Air Transport, authorized by Texas Railroad Comn. to acquire Freeman Bros. bus line connecting Fort Worth, Dallas, Denton, Greenville and Sherman; J. C. McGuirk's Paris-Bonham-Sherman route and Peyton Co., operating over 85 mi. from Greenville to Denison via Bonham; purchasing company, reported, plans bus system with capitalization of probably \$5,000,000 and may issue an additional \$4,700,000 in preferred stock.

Va., Cape Charles—State Corporation Comn. authorized Accomac Transfer Corp. to conduct freight bus service between Cape Charles and Maryland line up Eastern Shore.

Va., Roanoke—Camel City Coach Co., 231 S. Liberty St., Winston-Salem, N. C., acquired Eagle Motor Coach Co.'s line, operating from Martinsville to Roanoke.

Motor Cars, Garages, Filling Stations

Ala., Athens—L. C. Hightower erect garage and bus station; 1-story, 125x155 ft., steel, comp. roof, conc. floors; receiving bids; Marr & Holman, Archts., Stahlman Bldg., Nashville, Tenn.

Ala., Montgomery—Firestone Tire & Rubber Co., Akron, Ohio, J. D. Stephens, Agt., Montgomery, let contract to J. O. Estes, 23 Adams St., for \$80,000 service station and distribution building, 303 S. Court St.; 2-story, brick and steel; Okel & Cooper, Archts., Bell Bldg.

Ark., Fort Smith—W. R. Martin, Free Ferry Rd., let contract to J. H. Reddick, Kennedy Bldg., for \$13,000 service station; 50x90 ft., conc., brick and stone, comp. roof; to be occupied by W. M. Jones, 418 N. 21st St.; Bassham & Wheeler, Archts., Kennedy Bldg.

Ark., Little Rock—Schaefer-Norvell Tire Co., H. A. Schaefer, Jr., 223 W. Third St., soon receive bids for service station, Fourth St. and Broadway; 140x75 ft., stucco, stone, rein. conc.; basement, 75x54 ft., for car garage; conc. driveways, 86x75 ft.; Tom Harding, Archt., Exchange Bk. Bldg.

Fla., Daytona Beach—Daytona Tire Service, Inc., chartered; A. T. Hartzell, 204 Congress St.; C. H. Bornmann.

Fla., St. Petersburg—Keystone Garage, Inc., chartered; F. I. Kithcart, 2100 Euclid Blvd.

Ky., Ashland—Gulf Refining Co. acquired site, 13th St. and Central Ave.; erect filling station.

Ky., Harrodsburg—Harrodsburg Motor Co., capital \$12,000, incorporated; B. F. Norfleet, George W. Durr.

Ky., Louisville—Ditto-Hartzell Motor Co., capital \$30,000, incorporated; H. S. Ditto, B. D. Hartzell, 2111 Boulevard Napoleon.

La., Plaquemine—Bryant Motor Co., Inc., let contract to T. Raymond Herbert for garage, Bayou Rd. and Texas & Pacific Grounds; 1-story, brick and conc.; cost \$25,000.

Md., Mitchellville—Ingalls Motors Co., Inc., chartered; John L. Ingalls, Joseph L. Simmons.

Mo., St. Louis—Easton Avenue Tire Works let contract to Wallace M. Smith, 45 Queens Ave., for \$15,000 sales room and tire shop, 5839 Easton Ave.; 1-story, 100x100 ft., built-up roof, conc. foundation; Schulte & Tarling, Archts., 222 Grand-St. Louis Bldg.

Mo., West Plains—Paul Johnson Motor Co., capital \$25,000, incorporated; Paul G. Johnson, West Plains; W. L. Gun, Alton.

N. C., Charlotte—Paramount Motor Co., capital \$100,000, incorporated; George E. Wilson, Jr., 708 S. Tryon St., Charlotte; N. K. Reid, Concord.

N. C., Lexington—Blowers, Inc., capital \$100,000, incorporated; H. M. Dubose, Jr., J. L. Maxwell, tires, tubes and other automobile accessories.

N. C., Raleigh—Taylor-Buick Co., capital \$50,000, incorporated; James H. Pou, Jr., Lawyers Bldg.

Okla., Wewoka—Robbins Bros. let contract to Ben P. Horst, Shawnee, for \$18,000 garage; 1-story, 100x130 ft.; A. C. Davis & Sons, Archts.

Tenn., Chattanooga—Lightning Service, Inc., capital \$75,000, chartered; A. C. Deer, C. A. Boley.

Tenn., Johnson City—Preston Motor Co., capital \$25,000, incorporated; J. C. Preston, N. D. Kirkpatrick.

Tenn., Knoxville—Eugene C. Fretz, 1712 White Ave., let contract to A. H. Whisman, for warehouse, Broadway viaduct and Oak St. bridge; 3-story, 191x60 ft.; cost approx. \$40,000; to be occupied by Goodyear Tire and Rubber Co., for its Knoxville headquarters.

Tenn., Nashville—Connor Tire Co., 1101 Broad St., erect filling station, Church St. and 14th Ave.; 1-story, 72x98 ft., brick, struc. steel, comp. roof, conc. and tile floors; Donald W. Southgate, Archt., 1101-2-3 Nashville Trust Bldg.

Tex., Corpus Christi—Maston S. Nixon, Nixon Bldg., erect \$75,000 ramp garage, Carancaua St.; 2-story, 100x130 ft.; put in foundation for 5-story structure; probably

build 3 additional stories at future date to cost \$100,000.

Tex., Corpus Christi—Broadway Properties Co., Inc., acquired site near Nixon Bldg.; erect \$75,000, 2-story ramp garage.

Tex., Harlingen—T. H. Thomas erect garage and filling station; 1 story, 50x140 ft., tile, conc., comp. roof, conc. floors; cost \$12,000; plans complete; W. R. Varner, Archt.

Tex., San Antonio—L. B. Gilmore, 2600 Main Ave., let contract to E. Bourgeois, 318 Avondale St., for 1-story, brick and conc. filling station, McCaullough and Annie St.

W. Va., Parkersburg—Richter-Overland Co., C. Russell Richter, 621 Seventh St., acquired site, Seventh St., erect \$75,000 automobile salesroom, garage and office building.

Railways

Ala., Gadsden—Nashville, Chattanooga and St. Louis Railway, J. B. Hill, Pres., Nashville, Tenn., advises regarding extension from Guntersville to Huntsville, opening line from Birmingham to Nashville by way of Gadsden, has no foundation in fact. 1-3

Mo., St. Louis—Interstate Commerce Comm., reported, authorized Illinois Traction System, Clement Studebaker, Jr., Pres., Chicago, Ill., to build subway and elevated line up edge of down-town district from McKinley Bridge; cost \$4,952,950, including \$1,385,000 for freight station and office building, 12th Blvd. and Lucas Ave.; to begin construction before May. 12-27

Mo., St. Louis—Missouri-Pacific Railroad Co., L. W. Baldwin, Pres., reported, authorized expenditure of \$2,096,000 for protection of right-of-way against damage by flood; to be used in Arkansas for raising grade above highwater, between Newport and Bradford and for applying stone ballast and rapping in White and Cache River Valleys between Bald Knob and Winne. 12-27

Mo., St. Louis—Missouri-Pacific Railroad Co., L. W. Baldwin, Pres., reported, ordered following equipment to be delivered about April 30: 25 8-wheel switch engines, 10 of which will be equipped for burning oil and balance coal burning, from Lima Locomotive Works, Inc., Lima, Okla.; 20 air dump cars for construction work, from Western Wheeler Scraper Co., Aurora, Ill.; 2 25-ton locomotive cranes and heavy duty, 150-ton self-propelling wrecking crane, from Industrial Brownhoist Co., 200 Fifth Ave. Bldg., New York; total cost of equipment ordered approx. \$1,548,000. 12-13-28

Mo., St. Louis—St. Louis-San Francisco Ry., J. M. Kurn, Pres., St. Louis, reported, authorized by Interstate Commerce Comm. to issue \$8,000,000 in 4½% bonds; for short term debts now outstanding.

Okla., El Reno—Chicago, Rock Island and Pacific Railway Co., J. E. Gorman, Pres., Chicago, Ill., reported, plans expenditure of approx. \$25,000,000 in 1929 exclusive of new equipment; 85-mi. line from Trenton to Birmingham, Mo., and extension from Gruver, Tex., to Liberal, Kan., included in plan; \$1,000,000 to be spent for new yards and terminals, including erection of \$370,000 steel car repair shop at El Reno, \$400,000 for grade revision in Dallas County, Tex. 1-3

Texas—Missouri-Kansas-Texas R. R. Co., C. Halle, Pres., St. Louis, Mo., advises regarding improvement program for 1929: Contemplate total expenditure of \$6,513,921; \$2,076,900 for rail laying and ballasting; \$251,245 for bank widening and flood protection; \$502,290 for revision of line and grades; \$644,440 for bridges and trestles; \$183,350 for signal and interlocking plants; \$655,400 for shop buildings and engine houses and \$156,142 for shop machinery and tools; construct \$405,000 roundhouse with mechanical facilities at Fort Worth; \$175,000 for completion of locomotive facilities at Smithville; \$400,000 for line and grade revision on Henrietta Division between Whitesboro and Wichita Falls; \$90,000 for reduction of curvature on St. Louis Division; automatic block signals to be installed on Kansas City Division, between Paola and Centerville, to cost \$83,250; expend approx. \$50,000 for improvement of machinery and tools at Parsons locomotive shops and \$20,000 at Parsons reclamation plant; approx. \$20,000 for improvement of machinery and tools at Sedalia car shops; \$10,000 at Waco shops and approx. \$10,000 at Denison shops. 12-27-28

Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

Ala., Montgomery — City, J. L. Cobbs,

Treas., receives bids Jan. 15 to grade, install granite curbing, gutters, sewers, brick walls; 1141 lin. ft. conc. gutters, 1116 lin. ft. 5x18 in. granite curb, manholes, inlets, etc.; J. M. Garrett, City Engr.

Ala., Selma—City, J. T. Rowell, Mayor, considering paving .8 mi. Orrville Highway, from western end of Dallas Ave. to Jones Creek.

Fla., Jacksonville — City, M. W. Bishop, Sec., plans expending \$600,000 to pave Beaver St., widen and pave Main St., etc. See Financial News. 11-15

Fla., Jacksonville—City, W. E. Sheddian, Engr., prepared plans for paving East Monroe St., Georgia to Wear, with conc., and Wear to Haines with brick; M. W. Bishop, Sec.

Fla., LaBelle — Hendry County Commrs. plan 4 roads in Clewiston section.

Fla., West Palm Beach—City Commrs., A. E. Parker, City Mgr., considering extending 40-ft. hard surface Flagler Drive to Butler Ave.; approximate cost \$14,000; W. D. Bradford, City Treas.

Ga., Atlanta—City, B. Graham West, City Comptroller, considering extending Broad St., Mitchell to Whitehall; widen Whitehall St., Windsor to McDaniel; rebuild Mitchell St. viaduct, enlarge Candler Field.

Ga., Atlanta—City, B. Graham West, City Comptroller, plans street widening, bridge construction, grade crossing, elimination during 1929: Widen Peachtree St., North Ave. to Fifteenth St., estimated cost \$259,242; extend Broad St. to junction with Whitehall estimated cost \$123,814; underpass on North Ave. at Southern Ry. and N. C. & St. Louis main line tracks, \$469,671; high overhead bridge on same street at Southern Ry. belt line, \$1,250,000; replace Mitchell St. viaduct at Terminal Station, estimated cost \$206,700; re-construct downtown viaduct at Whitehall St. cost \$62,209; at Broad St., \$70,000; replace Edgewood Ave. viaduct, estimated cost \$76,694; I. N. Ragsdale, Mayor.

Ga., Fitzgerald—Ben Hill County Comm., W. R. Bowen, Commr., and Telfair County Comm., B. S. Williams, Commr., McRae, considering highway and bridge over Ocmulgee River between Fitzgerald and McRae.

Ky., Hardinsburg — Breckenridge County Fiscal Court, Wilson Davis, County Judge, plans 4 inter-county seat roads: From Central City to Hartford via Rockport and McHenry and from Hartford via Fordsville to Hardinsburg; from Brownsville via Leitchfield to Hardinsburg; from Garfield, on Project No. 8 via Custer, Dyer and Constantine to Cecelia, on Project No. 12; from Miller's Point, on Project No. 8, to Cloverport via Ekron, Paynesville, Concordia, Rhodella, Union Star and Stephensport; \$250,000 available.

Ky., Louisville—Bd. of Public Works considering rebuilding Fourth St., Breckinridge St. to Ohio River.

Louisiana—Louisiana Highway Comm., Baton Rouge, plans graveling 400 to 500 mi. highway during 1929; J. M. Fourmy, State Highway Engr.

La., Cameron—Cameron Parish preparing plans for 4 mi. road from Pass to Blue Buck ridge, connecting with present roads to Cameron and Grand Chenier, linking interior of parish with Sabine Pass, cost \$20,000. See Financial News.

La., DeRidder—Louisiana Highway Comm., Baton Rouge, plans completing 5 roads in Beauregard Parish: 2½ mi. Routes 113 and 151, between Sugartown and Elizabeth, and Sugartown and Pitkin; Route 143, Merryville to Starks; Evangeline Highway No. 7, east and west through southern part of county; No. 113, northeast section of county; J. M. Fourmy, State Highway Engr.

La., Rayville—Mayor and Town Council receive bids Jan. 15 to pave about 4 mi. streets, lay sidewalks and curbs.

Md., Baltimore—Bd. of Estimates approved paving with sheet asphalt, Glenmore Ave., Sefton to Bertram, estimated cost \$94,390; Nathan L. Smith, Highways Engr.

Md., Baltimore—City, Bd. of Awards, receives bids Jan. 16 to grade, curb and pave with 20.350 sq. yd. sheet asphalt on conc. base, streets in Cont. 499; Nathan L. Smith, Highways Engr.

Tex., Beaumont—Jefferson County plans expending \$4,000,000 for improved highway along beach to Chambers County, paving College St. extension to Houston road, 200-ft. wide boulevard, between Beaumont and Port Arthur, other road projects; also bridge across Neches River, near Port Arthur, intra-coastal canal bridge in south of county. See Financial News.

Mississippi—State Highway Comm., G. A. Draper, Engr., Jackson, receives bids Jan.

11 for .941 mi. road, from Alabama State line to Federal Aid Project No. 1, part of State trunk road, between Hamilton, Ala., and Fulton, Miss.; 10,562 cu. yd. excavation and borrow, 15,236 lb. rein. steel.

Miss., Aberdeen — See Bridges, Culverts, Viaducts.

Missouri—State Highway Dept., Jefferson City, appropriated \$650,000 for roads in Division No. 8, in 1929; plans and surveys completed.

Mo., Clayton, Ind. Branch St. Louis—St. Louis County, Roy Jablonsky, Highway Engr., received low bid from John Dillon, 2902 Indiana Ave., for 2 sections of Hibler road: From Mason to Woods Mill road, \$8110; Mason to point east, \$6544. 12-13

Mo., Clayton—City, Walter E. Miller, Clk., received low bid from D. H. Thorn, 2413 Baldwin, Overland, Mo., \$11,200, to improve Bowles Ave. 12-13

Mo., Independence—Jackson County Court, Harry S. Truman, Presiding Judge, receives bids Jan. 15 for 14 mi. 18-ft. pavement on Outer Belt road, from U. S. 71 and Mo. 7 to point east of Greenwood; cost about \$500,000; Leo E. Koehler, County Highway Engr.

Mo., Union — Franklin County Highway Comm., H. W. Dornan, Sec., plans 5 roads: State Highway No. 50, from Union to point at or near Washington, Route 47, then through or near New Haven and Berger to Franklin-Gasconade County line; County Highway, from near New Haven south through or near Disen, crossing Route No. 50 at or near Gerald, etc.; from St. Clair, on Routes 30 and 66, south to Washington County line; from Pacific, from point on Route 47 near intersection with Gildehaus-Labadie road, then through or near Labadie and Otters Station, etc.

North Carolina — State Highway Comm., Raleigh, plans expending \$8,000,000 during 1929 for roads and bridges: \$4,500,000, for 250 mi. hard surfaced roads; \$1,000,000 for bridges; \$2,500,000 for graded, top soil and gravel surface roads.

N. C., Asheville—Buncombe County Commrs., Newton M. Anderson, Chmn., plan letting contract in few weeks for paving, structures and 3 bridges on Sand Hill road, from city limits to American Enka Corp. plant; Bridge over Ragsdale Creek; over Hominy Creek; over channel into which creek has been diverted.

N. C., Durham—City plans thoroughfare to connect Vickers Ave., Forest Hills, with Pine St.

N. C., Marshall—State Highway Comm., Raleigh, allotted \$25,000 toward improving State Highway No. 211 from Little Laurel River Bridge, on Highway No. 20, Madison County to Tennessee State line; J. C. Council, Res. Engr.

N. C., Manteo—Dare County, R. Bruce Etheridge, considering 17 mi. hard surface road, from Kitty Hawk to Nags Head.

N. C., Currituck—Currituck County probably receive bids next summer to pave 12½ mi. road from Grandy to Point Harbor, end of Currituck peninsula.

N. C., High Point—City plans opening Howell St., from North Main to North Wrenn, and North Wrenn to North Hamilton St.

Okla., Ada—City plans grading and paving 9 blocks Norton, College and Hillside St., 30-ft.; \$25,000; Black & Veach, Engr., Mutual Bldg., Kansas City, Mo.

Okla., Alva—City, Thos. W. Keltch, Clk., receives bids Jan. 15 for 6-in. plain conc. paving in Dist. No. 16; Benham Engineering Co., 106 Perrine Bldg., Oklahoma City.

Okla., Bartlesville — Washington County, H. C. Scudder, Commr., plans starting in Jan. to gravel Copan-Wann road, 8 mi. west from Wann.

Okla., Boise City—City plans 6,900 sq. yd. vertical fibre brick paving, Court House Square, cost \$31,000; H. A. Warner, Engr., Amarillo, Tex.

Okla., Nowata—Nowata County Commrs. receive bids soon to gravel highway from Wann, 12 mi. east, intersecting with Nowata-Coffeyville highway.

Okla., Oklahoma City—City Council, M. Peshek, Clk., authorized 10 blocks of paving in Edgemere Park addition; W. W. Small, City Engr.

Okla., Sulphur—Murray County Commrs., J. A. McCulver, Commr., plans 28-ft. grading and graveling 10 mi. Road 12.

Okla., Tulsa—City Comm., Dan Patton, Mayor, plans receiving bids at once to widen, Forty-first St., Red Fork.

S. C., Anderson—City, Foster Fant, Mayor, considering surface treatment on various streets; laying sewer mains in Cotton Mill village.

S. C., Beaufort—State Highway Comm., Columbia, completed survey for paving Boundary St., on up Carteret St. to Beaufort-St. Helena Bridge, connecting with Route No. 28.

S. C., Charleston—City, Mayor and Bd. of Aldermen, may complete Cannon St. extension, connecting Ashley River bridgehead with Cannon St.

S. C., Charleston—City, Thomas P. Stoney, Mayor, considering Boulevard extension; may issue bonds; \$150,000 available.

S. C., York—York Permanent Roads Comm., considering hard surfacing several unpaved streets in York, as links of State Highway Comm.

Tennessee—Dept. of Highways and Public Works, Nashville, probably receive bids early in Feb. for grading and draining on 12 roads: Sullivan County—2.39 mi. Route 36, Kingsport to Virginia line; Roane County—1.75 mi. approaches to bridge 14; Madison County—9 mi. Route 18, Hardeeman County to Route 5; Weakley County—10 mi. Route 54, Dresden to Henry County line; Marshall County—10.1 mi. Route 51, Lewisburg to Duck River; Lincoln County—16 mi. Route 15, Fayetteville to Giles County line; Johnson County—2.2 mi. Butler spur; Dickson County—11.1 mi. Route 48, Charlotte to Montgomery County; Warren County—11.71 mi. Route 55, McMinnville to Coffee County line; Davidson County—1.5 mi. Route 1, Harding road; Gibson County—13 mi. Route 76, Humboldt to Milan; Carter County—7 mi. Route 67, Hampton to Fish Springs; Harry S. Berry, Commr.

Tenn., Chattanooga—Dept. of Highways and Public Works, Nashville, plans receiving bids soon for 3.7 mi. Hooker road paving, from Rossville to St. Elmo, Hamilton County; H. S. Berry, State Highway Commr.

Tenn., Dresden—Dept. of Highways and Public Works, Nashville, plans 10.7 mi. grading, draining, Route 89, from Dresden to Palmersville, Weakley County, by state forces; Harry S. Berry, Commr.

Tenn., Knoxville—City, W. W. Mynatt, Dir. of Public Service, receives bids Jan. 14 for 600 sq. yd. 2-in. asphaltic conc. on 6-in. conc. base paving.

Tenn., Nashville—State Highway Dept. Engineers, Nashville, making survey of new road from Nashville to Old Hickory Bridge across Cumberland River, Davidson County, paralleling Gallatin road; State and County plan completing project in 1929.

Texas—State Highway Comm., Austin, appropriated funds for proposed base, preparatory to bit. surfacing on 5 roads: Callahan County—5.5 mi. Highway 23, Coleman County line to Eastland County line, estimated cost \$10,892; J. B. Early, Div. Engr.; Travis County—5.6 mi. Highway No. 71, Onion Creek southeast to Bastrop-Travis County line, estimated cost \$16,452; D. E. H. Manigault, Div. Engr.; Milam County—9 mi. Highway 36, Buckholts to Bell County line, estimated cost \$26,400; John E. Blair, Div. Engr.; Bryan, Anderson County—4.5 mi. Highway 43, east from Trinity River, estimated cost \$19,906; L. D. Hogan, Div. Engr.; Bastrop County—6 mi. Highway No. 71 Smithville to Alum Creek, \$10,272; D. E. H. Manigault, Div. Engr.; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comm., Austin, appropriated funds to improve 3 roads: Cass County—laying base, preparatory to placing bit. surface on 15.5 mi. Highway No. 47, end of McCartney Bridge to Atlanta, estimated cost \$121,180; Hunt County—4.2 mi. base, Highway No. 1, Ardes Heights at Greenville east to west end of paving, estimated cost \$21,279; Gonzales County—15.5 mi. base, Highway 29, Gonzales to DeWitt County line, estimated cost \$18,049; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comm., Austin, appropriated funds for proposed base preparatory to bit. surfacing on 5 roads: Cherokee County—21 mi. Highway No. 15, Houston County line east through Alto to Nacogdoches County line, estimated cost \$49,443; Nacogdoches County—2.5 mi. Highway No. 35, Nacogdoches north to Highway No. 26, estimated cost \$5280; Rusk County—26 mi. Highway No. 14, Nacogdoches County line to point south of Henderson, estimated cost \$31,446; San Augustine and Sabine Counties—19.5 mi. Highway No. 8, San Augustine to Sabine County and from Sabine County line to Bronson, estimated cost \$63,870; Van Zandt County—11 mi. Highway 64, Edom to Ben Wheeler, estimated cost \$49,500; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comm., Austin, appropriated funds for proposed base preparatory to bit. or asphalt surfacing on 6 roads: Rusk County—5 mi. Highway 43, Henderson, northeast, cost \$15,000; D. L. Hogan, Div. M.

Engr., Tyler; Nacogdoches County—5.5 mi. Highway 26, from junction with Highway 35, extending to Rusk County line, \$13,082; Edward F. Maddox, Div. Engr.; Lufkin; Maverick County—2.5 mi. Highway 35, north of Eagle Pass to fork of Hopedale road, \$9,450; H. P. Stockton, Jr., Div. Engr.; San Antonio; Val Verde County—4.5 mi. Highway 30, point north of Del Rio, north, \$15,080; H. P. Stockton, Jr., Div. Engr.; Brooks County—17.5 mi. Highway 12, end of conc. south of Falfurrias to Hidalgo County line, \$10,500; Thomas W. Bailey, Div. Engr.; Corpus Christi; Freestone County—10 mi. Highway 7, Freestone County line to Teague, \$39,750; John E. Blair, Div. Engr.; Bryan.

Texas—State Highway Comm., R. S. Sterling, Chmn., Austin, appropriated fund for proposed base preparatory to bit. or asphalt topping on 7 roads: Bowie County—5 mi. Highway No. 5, DeKalb to west end of paving, estimated cost \$10,306; W. W. Dockery, Div. Engr.; Paris; Hunt County—5 mi. Highway No. 34, from paving south, estimated cost \$25,671; Parker County—16 mi. Highway 1, Pablo County line to Weatherford, estimated cost \$9000; John Mead, Div. Engr.; Fort Worth; Reeves County—Highway No. 3 and 27, Pecos line through Balmorhea to point west of Toyahvale, estimated cost \$8000; G. B. Finley, Div. Engr.; Balmorhea; Ward County—18.5 mi. Highway No. 82, Monahans south; Mason & McCulloch Counties—20.5 mi. Highway No. 9, Mason to McCulloch County line, then north 6 mi., estimated cost \$43,184; A. F. Moursand, Div. Engr.; San Angelo; Anderson County—4 mi. Highway No. 43, end of conc. pavement, Nichols, to Neches River, estimated \$12,000; D. L. Hogan, Div. Engr.; Gibb Gilchrist, Highway Engr.

Tex., Amarillo—Potter County, Sam B. Motlow, County Judge, completed survey for 20.80 mi. earthwork and drainage structures, from point north of city limits to point on Oldham County line near Ady; estimated cost \$150,000; J. W. Ryder, County Engr.; work by county forces; structures include 4 steel bridges, total length 600 ft.; one 450-ft. crec. pile structure; probably build major structures in 1930. 1-3

Tex., Austin—City, P. W. McFadden, Mayor, plans letting contracts soon for street paving, including First, Second, Third, etc., between Congress Ave. and Nueces St.; Hans R. F. Helland, City Bond Improvement Engr.

Tex., Barstow—Ward County, Geo. H. Tucker, Judge, plans 7.466 mi. grading, draining, caliche surface, Highway No. 82, Winkler County line to Monahans; A. C. Love, Res. Engr.

Tex., Borger—City, Glenn A. Pace, Mayor, plans graveling all side streets in Borger, including Sixth and Hedgecock St.

Tex., Brownsville—State Highway Comm., Austin, probably receive bids Jan. 21 for road in Cameron County; 4.791 mi. rein. conc. Highway 100, between Barredo and Point Isabel, near Los Fresnos, estimated cost \$126,000; Oscar C. Dancy, County Judge; O. W. Washington, County Engr.

Tex., Brownsville—State Highway Comm., Austin, may let contract Jan. 21 for 7.845 mi. conc. paving, Highway No. 96, from point south of Combes to Willacy County line, Cameron County; estimated cost \$103,000; Oscar C. Dancy, County Judge. 1-3

Tex., Cameron—Milam County plans all-weather road across county.

Tex., Centerville—State Highway Comm., Austin, probably receive bids soon for 1.854 mi. grading, draining, Highway 32, from intersection with Highway No. 43 at Bufalo, to Freestone County line, Leon County; Nagle-Witt-Rollins, County Engrs.

Tex., Corpus Christi—City considering revised plan to pave Morgan St., Ocean Drive to Nineteenth St., with 5-in. shell or caliche base, 1-in. topping; may receive bids; H. L. Shaw, City Engr.

Tex., Corpus Christi—Nueces County, Nat Benton, Judge, plans 5.231 mi. grading, draining, Highway No. 16, Banquette Creek to Aqua Dulce; Calvin E. Cocke, Engr.

Tex., Crosbyton—Crosby County plans paving Highway No. 53, from Crosbyton to Dickens County line. See Financial News.

Tex., Dalhart—Dallam, Hartley and Sherman Counties Comms. Courts, considering forming road dist. comprised of 3 counties, to hard surface state highways in tri-county dist.; from Channing to Texline, through Dalhart; from New Mexico State line to Texahoma, totaling 166 mi. See Financial News.

Tex., Dallas—City, R. E. Burt, Mayor, plans expending \$11,340,000 for various improvements, during 1929: \$1,265,000, 21 mi. water mains; \$1,000,000, additional work by water dept.; \$590,000, purification plant; \$500,000, pumping plant; \$4,000,000, second year Ulrickson program; \$4,000,000, property owners' part on street programs; John Young, City Engr.

Tex., Dallas—Dallas County, F. H. Alexander, County Judge, plans expending \$3,500,000 for road development, out of bonds; \$800,000, road maintenance; \$800,000, street railway viaduct; \$100,000, realignment of gas supply mains; \$4,900,000, levee construction.

Tex., Dallas—City Comm. received low bid from Central Bitulithic Co., Praetorian Bldg., \$2.53 per sq. yd., to pave Marlborough Ave. and Elsbeth Place; John M. Young, City Engr.

Tex., Decatur—Wise County plans expending \$145,000 for 20 mi. highway from Rhame to Bridgeport, Road Dist. No. 4; probably let contract soon; O. W. Hunn, County Engr.

Tex., Junction—State Highway Comm., Austin, appropriated funds for proposed base, on 12 mi. Highway 27, west from Junction, estimated cost \$25,334; A. F. Moursand, Div. Engr.; San Angelo; Gibb Gilchrist, State Highway Engr.

Tex., Kermit—Winkler County, S. M. Halley, Judge, Monahans, plans 15.605 mi. grading, draining, gravel surface, bit. top Highway, from Kermit to Ward County line; estimated cost \$278,000; A. C. Love, Res. Engr.

Tex., Kerrville—Kerr County, Lee Wallace, Judge, plans 11,250 mi. rock base, 19-ft. wide, Highway No. 41, from Real County line to Sta. 617 plus 00; S. K. Mason, Engr.

Tex., Odessa—Ector County Comms. have under construction new road from Potash Highway to lease of American Potash Co. on Jones ranch; road will join Potash Highway 10 mi. south of Odessa and extend 6 mi. east.

Tex., Perryton—City plans paving in residential and downtown business streets; Devlin Engineering Co., Wichita, Kan., and Central Bldg., Amarillo, Tex., preparing plans.

Tex., Plainview—City plans 14 additional blocks of paving early in 1929.

Tex., Plainview—Hale County, Geo. L. Mayfield, Judge, plans 21.410 mi. grading, draining, Highway 28, Plainview to Floyd County line; Larry C. Cox, Engr.

Tex., Port Arthur—City, J. P. Logan, Mayor, plans expending \$450,000 to improve or shell every street; C. B. Moore, City Finance Commr. See Financial News.

Tex., Refugio—Refugio County, T. W. McGull, Judge, plans 17.835 mi. grading, draining, 18-ft. caliche surface, Highway 128, San Patricio County line to point 1 mi. east of Refugio, estimated cost \$179,000; R. E. Killmer, Engr.

Tex., Rusk—Cherokee County, J. J. Bolton, Judge, plans 5.948 mi. grading, draining, Highway 37, Jacksonville to point north of Cherokee County Road Dist. No. 1; G. A. Bracher, County Engr.

Tex., San Antonio—San Antonio Public Service Co. plans expending \$75,000 to repave property and relay car tracks on Broadway, Breckenridge Ave. to city limits, and on South Alamo, to be widened 50 to 80 ft.

Tex., Sinton—San Patricio County Comms. receive bids soon for Aransas Pass-Ingleside Dist. road; sold bonds.

Va., Clarendon—Arlington County may widen Wilson Blvd. 30 to 50 ft., Rosslyn to Clarendon; B. M. Hedrick, Supvr. of Arlington Dist.

Va., Norfolk—City, I. Walke Truxtun, Mgr., considering expending \$25,000 to widen Boush St. 20 ft., York to Bute; later widen Boush St., York to Freemason St.

W. Va., Clarksburg—City, D. H. Hamrick, Ck., receives bids Jan. 15 to grade N. Third St. and lay sanitary sewers in Ohio Ave., N. Second St. and J. I. S. Stanley Estate; 1250 cu. yd. excavation, 6 manholes, etc.

W. Va., Moundsville—Marshall County, B. W. Brown, Engr., will make survey to improve Kentucky Heights, Fourth to Ninth St., State Route No. 2, being link on State road between Chester and Parkersburg.

W. Va., Wayne—State Road Comm., Charleston, may improve 3 roads in Wayne County: Hard surface State Route from Kenova to Lacalette; grade and relocate road from Kenova to White Creek, Prichard and Fort Gay; improve Piedmont road between Kenova and city limits of Huntington.

Contracts Awarded

Ark., Malvern—Newell Construction Co., Little Rock, contractors, sublet contract to DeLamar & Allison, Arkadelphia, to gravel 20 mi. Highways 51 and 67, between De Roche Creek and Malvern, Hot Springs County. 12-27

Ark., Pine Bluff—City let contract to J. P. McNulty, 2121 Cherry St., Pine Bluff, \$73,198, to grade, curb and pave Fourth Ave. and Locust St., Improvement Dist. No. 104. 11-15

Fla., Jacksonville—Duval County Comms., J. G. Rawls, Chmn., let contract to Walter J. Bryson Paving Co., West Fourteenth St., \$35,546, to hard surface and improve Lem Turner road, from Trout River Bridge north

to Nassau County line; F. M. Edwards, County Engr. 12-13

Fla., Miami—City Comn., H. E. Ross, Clk., let contract to Morgan-Hill Paving Co., 71 N. E. 21st St., Miami, and Woodward Bldg., Birmingham, Ala., to pave Twenty-fifth St., Twenty-first to Twenty-second St., with 18-ft. rock base, oil and sand surface paving. 12-13

Ga., Albany—City, reported, let contract to Morgan-Hill Paving Co., Woodward Bldg., Birmingham, Ala., for ¾ mi. asphalt covering, East Broad St., Memorial Bridge to present paving on Florida Short Route; grading, laying base and curbing by day labor. 12-13

La., Baton Rouge—East Baton Rouge Parish School Bd., W. H. Perkins, Pres., let contract to Henry Thibodeaux, Bernard Grove, Baton Rouge, for 985 sq. yd. sidewalk on Monte Sano School site; 30-ft. 12-in. and 45-ft. 15-in. drainage tile; Seifried & Troeger, Landscape Architects, 206 Welch Bldg. 12-20

Md., La Plata—State Roads Comn., Baltimore, let contract to Southern Maryland Contracting Co., 12 E. Lexington St., Baltimore, for 3.2 mi. gravel, State Highway, between Chicomuxen and Doncaster, Charles County; John N. Mackall, Chmn. 11-29

Miss., Union—Town, Mayor and Bd. of Aldermen, let contract to Nooner Construction Co., Pensacola, Fla., \$18,000, for 8000 sq. yd. rein. conc. street paving. 12-13

Mo., Cape Girardeau—State Highway Comn., Jefferson City, let contract to Rouse Construction Co., \$161,250, for 9¼ mi. paving, Highway No. 61, from Frisco Ry. tracks south of Cape Girardeau, to Williams Creek, at Byrd Township. 12-13

Mo., Mountain Grove—City Council let contract to W. E. Fogerson, 712 E. Elm St., Springfield, at \$2.00 per sq. yd. for slab, 40 cents per foot for curb, on West First St. 12-13

N. C., Asheville—Buncombe County Comn., Chmn., let contract to Lee J. Smith, Asheville, \$56,228, to grade 4¼ mi. Sand Hill road, from city limits to \$10,000,000 American Enka Corp. plant. 12-6

Okla., Oklahoma City—Oklahoma County Comn., let contract to Maney & Alley Co., Empire Bldg., \$19,720, to gravel 5 mi. East Reno Ave., from Eastern Ave. east. 12-13

Okla., Oklahoma City—City, E. M. Fry, Mgr., let contract to M. A. Swatek Construction Co., 519½ W. Main St., to pave Kate, Granger and C avenues. 12-20

Okla., Oklahoma City—City, M. Peshek, Clk., let contract to Porter Construction Co., \$23,903, to pave alley in Bellevue addition, Zion St. and Madison Ave.; H. L. Cannady Co., 1126 S. Lewis St., Tulsa, to pave alley in Kirkwood Place and Friend-Gillette additions. 12-13

Okla., Shawnee—City, J. C. Coleman, Clk., let contract to H. L. Cannady Co., 1122 S. Lewis St., Tulsa, \$10,961, for 2-in. asphalt paving on 5½-in. conc. base in Dist. No. 75; E. T. Archer & Co., Consol. Engrs., Shawnee, and 609 New England Bldg., Kansas City, Mo. 12-13

Tennessee—Dept. of Highways and Public Works, Nashville, let contracts for 8 roads and 26 bridges, costing \$2,282,293; Grundy County—9.455 mi. grading, draining, between State Highway No. 56 near Altamont and Selmer, including 7 bridges over 20-ft. spans, Houston Foster, Lawrence, Ala., \$107,917; Henry-Stewart Counties—steel and conc. bridge over Tennessee River, at mouth of Big Sandy River, State Highway No. 70, Whiting-Turner Construction Co., Stewart Bldg., Baltimore, Md., \$866,418; Roane County—steel and conc. bridge over Tennessee River, State Highway No. 58, near Kingston, Whiting-Turner Construction Co., \$237,770; Cumberland-Roane Counties—conc. arch bridge and timber overhead structure and approaches, State Highway No. 1, Ozone to Rockwood, Southern Construction Co., Inc., 615 S. 11th St., Birmingham, Ala., \$55,613; Fentress County—6.922 mi. grading, draining, between Obey River and Jamestown; two untreated timber bridges, M. T. McArthur, Johnson City, \$139,342; Sullivan County—7.739 mi. grading, draining, Highway 36, Washington County line to Kingsport, over 20-ft. span conc. bridge, Walters & Prater, Dandridge, \$255,132. 12-13

In Johnson County—16.3 mi. grading, draining, Highway 67, Carter County line to Mountain City, Jerry W. Gwin, Comer Bldg., Birmingham, Ala., \$164,458; 4 conc. bridges over 20-ft. span, Murphy & Attaway, Hopeville, Ga., \$42,289; Shelby County—4.784 mi. grading, draining, Highway 14, F. G. Hall, Martin, \$129,815; Montgomery County—1.422 mi. grading, draining, Highway 12, approaches to bridge at Ringgold, Alexander Bros. and Hopson, Cadiz, Ky., \$25,300; Williamson County—9 mi. grading, draining, Highway No. 100, Hickman County line and Davidson County line, 2 conc. bridges over 20-ft. spans, Chandler Bros., Virgilina, Va., \$107,385; Davidson County—

6.107 mi. grading, draining, Highway 11, Goodlettsville to Ridgeway, R. E. Martin, Pulaski, \$84,145; 2 steel and conc. bridges, over 20-ft. span, Lebanon Bridge Co., Franklin, \$66,611. 12-6

Tex., Alpine—City, George Baines, Mayor, let contract to Dozier Construction Co., Austin, to pave 9 blocks residential streets. 12-13

Tex., Dallas—City Comn., let contract to H. L. Cannady Co., \$67,000, to pave Henderson Ave., Beeman to Grand, Santa Fe to East Side and Grand to Santa Fe; John M. Young, City Engr. 12-13

Tex., Dallas—Dallas County Commrs., Court, Charles E. Gross, County Auditor, let contract to Vilbig Brothers, Paris, \$40,700, for 20-ft. wide paving on old Greenville road, from Mocking Bird lane to Gaston Ave.; Rollins & Clinger, Dist. Engrs. 12-13

Tex., Santa Anna—City, G. W. Faulkner, Mayor, let contract to McCarthy-Allen Co., Coleman, for 5 blocks 6-in. rein. conc. paving. 12-13

Tex., San Antonio—City, C. M. Chambers, Mayor, let contract to Southeast Bitulithic Co., 302 Castro St., to pave Durango, Frio, Baltimore, Maverick, Leona, N. Santa Rosa and Josephine St.; to Alamo Paving Co., 321 Dawson St., to pave Theo Ave. and Thompson St.; to Colglazier & Hoff, 125 Crosby St., El Paso and Hildebrandt St.; to Uvalde Rock Asphalt Co., Frost National Bank, Broadway, South Alamo and Grayson St.; I. Ewig, City Engr.; cost \$288,472. 12-13

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

Ala., Birmingham—City Comn. receives bids Jan. 28 for brick and conc. masonry, terra cotta or conc. storm sewer, c. i. pipe and iron castings, catch basins, etc.; cost \$140,000; A. J. Hawkins, City Engr. 11-22

Ala., Montgomery—See Water Works. 11-22

Ala., Montgomery—See Roads, Streets, Paving. 11-22

Ark., Fort Smith—L. I. McEachin Const. Co., Home Ins. Bldg., Little Rock, has contract for 538 ft. of sewer pipe, Carnall Ave., cost \$15,000. 12-20

Ark., Helena—City has preliminary plans for \$30,000 sanitary sewerage system in W. Helena. 12-20

D. C., Washington—Washington Suburban Sanitary Comn. receives bids Jan. 13 for sewer pipe. See Want Section—Bids Asked. 11-15

Fla., Jacksonville—City votes Feb. 19 on \$1,500,000 sewer and drainage bonds. 11-15

La., Alexandria—R. J. Jones has contract for sewer pump house, rein. conc. at Second and Casson Sts. 11-15

La., Lake Charles—City votes Feb. 5 on \$400,000 sewer bonds. 11-15

La., Many—City votes Jan. 29 on \$50,000 sanitary sewer bonds; Swanson-McGraw, Inc., Balter Bldg., New Orleans, Consol. Engrs. 11-8

La., New Orleans—Sewerage and Water Bd. receives bids Feb. 27 for extension of drainage pumping station, installing motors, etc. See Want Section—Bids Asked. 11-8

La., New Orleans—H. P. and J. F. Egan, has contract at \$73,028 for sub-surface drainage in Baronne St. from Louisiana to Dufosse Ave.; M. Mitchell & Son, 323 Saratoga St., at \$28,481 for sub-surface drainage Poland Ave. 12-13

Mo., California—City rejected bids for 14-876 ft. of 8-in. vit. clay sewer in Dist. 3 and 4; Russell & Axon, Engrs., 1945 Ry. Exchange Bldg., St. Louis. 12-13

Mo., Clayton—Wm. A. Riley Const. Co., 110 N. 7th St., St. Louis, low bidder for sewer Charlack Road. 12-13

Mo., Springfield—Boyle Constr. Co., 1923 Main St., Kansas City, has contract at \$65,980 for Jordan Creek storm sewer. 12-13

Mo., University City—Martin & Reilly, 7227 Lindell Blvd., St. Louis, has contract at \$49,552 for Olive St. Terrace Sewer Dist. No. 67, also for connection to River Des Peres public sanitary sewer and McNamee Heights, Sewer Dist. No. 67. 12-13

N. C., Durham—City, R. W. Rigsby, Mgr., soon call for bids for \$60,000 sewer project to serve Duke University and other developments. 12-13

N. C., High Point—City receives bids Jan. 15 for sewer and water improvements. See Want Section—Bids Asked. 12-13

Okla., Oklahoma City—City plans sanitary sewers in Edgemere Park Addition; cost \$25,000. 12-13

Okla., Tulsa—C. M. Brown, 1315 S. Trenton St., has contract at \$51,000 for sanitary sewer system serving Harding, Dunbar and Roosevelt. 12-13

S. C., Anderson—See Roads, Streets, Paving. 12-13

S. C., Camden—Tucker & Laxton, Inc., Independent Bldg., Charlotte, N. C., has contract for complete sewerage system for various mills in Kendall group, Wateree Mills division. 12-13

Tex., Alice—City plans sanitary sewer system. 12-13

Tex., Center—City plans \$30,000 improvements to sewer system. 12-13

Tex., Palestine—City Comn. plans sewer extensions on DeBard St. and in Old Town. 12-13

Tex., San Antonio—City plans sewage disposal plant including pump house on S. Loop Road; 1 story and basement, brick and rein. conc.; c. i. piping, tanks, rein. conc. walls, etc.; soon call for bids; Hawley & Freese, Engrs., Frost Natl. Bank Bldg., and Cotton Exch. Bldg., Fort Worth. 12-13

Tex., Valley Mills—City plans \$30,000 sewer improvements. See Financial News. 12-13

W. Va., Clarksburg—City receives bids Jan. 15 for sanitary sewer, grading, etc., on portion of N. Third St. and Ohio Ave. See Want Section—Bids Asked. 12-13

W. Va., Clarksburg—See Roads, Streets, Paving. 12-13

Street Railways

Tex., Port Isabel—Port Isabel Co. construct electric railway to San Benito. 12-13

Telephone Systems

D. C., Washington—Chesapeake and Potomac Telephone Co. erect tile partitions and redecorate building, 725 13th St., N. W.; cost \$25,000. 12-13

Ga., Atlanta—Southern Bell Telephone & Telegraph Co. plans expenditure of more than \$30,000,000 during 1929 for additions and replacements to system; \$5,900,000 for local exchange lines; \$4,500,000 for central office and station equipment; \$5,000,000 for additions and reconstructions in toll system and more than \$1,700,000 for land and buildings; expend \$5,275,000 required for Georgia; \$4,890,000 for Tennessee; \$4,250,000 for North Carolina; other states range from approx. \$3,000,000 in Alabama and Kentucky and Louisiana to more than \$2,000,000 in Florida and Mississippi and \$1,500,000 in South Carolina. 1-3

Ga., Atlanta—Southern Bell Telephone and Telegraph Co., F. M. Craft, Ch. Engr., let contract to Barge-Thompson Co., 136 Ellis St., N. E., for 6-story building, Ivy St. and Auburn Ave.; 107x165 ft.; Marye, Alger & Vinour, Archt., 801 Walton Bldg. 1-3

Mo., St. Louis—Southwestern Bell Telephone Co., St. Louis, advises will expend \$42,104,000 for expansion and improvements during 1929 in Missouri, Kansas, Arkansas, Oklahoma and Texas; \$10,117,000 for Eastern Missouri and Kansas; \$14,231,000 for Texas and \$8,148,000 for Oklahoma; about 16,500 new telephones to be installed in Eastern Missouri and Arkansas; install dial equipment in St. Louis and Little Rock, Ark., and 1152 mi. of new cable circuits; program in Western Missouri includes completion of 14-story addition to telephone building in Kansas City, Mo., the installation of dial equipment there and a building extension in Topeka, Kan.; about 11,500 new telephones will be connected to system in Western Missouri and Kansas; plans building operations in Texas at Dallas, Fort Worth and Houston, and about 134 mi. of inter-city toll cable will be added to system; 20,000 new telephones to be connected to system in Texas during year; installation of about 178 mi. of inter-city toll cable and building projects in Tulsa and Stroud scheduled for Oklahoma during 1929 and 10,000 telephones to be connected to system in state during year. 12-13

N. C., Charlotte—Jacobson Plastering Corp., 1128 Candler Bldg., Atlanta, Ga., has contract for metal furring, metal lathing and plastering main dial office building for Southern Bell and Telephone Co., Inc.; Barge-Thompson Co., 136 Ellis St., N. E., Atlanta, Ga., has general contract. 8-9-28

Okla., Oklahoma City—Southwestern Bell Telephone Co., 405 N. Broadway, let contract to Holmboe Construction Co., 426 W. Second St., for telephone building; 50x89 ft., rein. conc., brick floors, tar and gravel roof; I. E. Timlin, Archt., 1918 Telephone Bldg., St. Louis, Mo.; W. J. Knight, Construction Engr., Walnwright Bldg., St. Louis, Mo. 12-13

Okla., Tulsa—Southwestern Bell Telephone Co., A. G. Milk, advises unable to tell date of receiving bids for 4-story addition to building; rein. conc., brick; cost \$200,000; I. E. Timlin, Archt., 1918 Telephone Bldg., St. Louis, Mo. 1-3

Tenn., Johnson City—Inter-Mountain Telephone Co., W. N. McAnge, Pres., serving East Tennessee and Southwest Virginia, plans expending \$162,000 during 1929.

Virginia—Chesapeake & Potomac Telephone Company of Virginia, Richmond, construct new plants involving expenditures of approx. \$800,000; includes Norfolk, Portsmouth, Ocean View, Virginia Beach, Suffolk, Hampton and Newport News; work includes laying submarine cable between Willoughby Beach and Old Point; serial cable between Old Point and Hampton; additions to central office equipment in Norfolk; pole lines; additional wire circuits; cable extensions; improvements to central office apparatus and private branch exchange systems in central office areas.

Textile Mills.

Ala., Anniston—United Chambers of Commerce preparing for erection of plant unit for Lengel Fencil Co., Reading, Pa., at S. Anniston (known as Oxanna), where approximately 11 acres of land has been purchased for unit; building will be 250x110 ft., 1 story, brick saw tooth roof, 28,000 sq. ft. floor space; C. F. Duke, Archt.; as soon as plans are approved by company will call for bids for construction; install seamless hosiery machines; manufacture men's silk half hose. 1-3

Ala., Athens—Volunteer Knitting Mills, reported, soon begin construction \$50,000 addition to mill. 9-27

Ga., Columbus—Standard Textile Products Co., 320 Broadway, New York, owners and operators of Meritas Mills, plans 3-story addition, 65x42 ft., to house additional napping, shearing and finishing machy. for Meritas Mills; will double napping capacity of plant; manufactures automobile fabrics.

Ga., Thomaston—B. F. Goodrich Rubber Co., Akron, Ohio, lately noted having option of Martha Mills, reported, have plans ready for distribution Jan. 20 for addition: left wing, 3 stories and basement, 12x160 ft.; right wing, 2 stories and basement, 250x160 ft.; warehouse, 2 stories and basement, 150x130 ft.; rein. conc. foundation; brick walls, c. i. columns; struct. steel beams; steel sash; steel doors; tar and gravel roof; sprinkler system; conc. and maple floors; Robert & Co., Inc., Engrs., Atlanta. 12-6

N. C., Black Mountain—Black Mountain Hosiery Mills incorporated; L. S. Covin, formerly of Miami, Fla., establish \$30,000 hosiery mill; install 25 knitting machines, with output 200 doz. prs. men's rayon and silk hose.

N. C., Burlington—Tower Hosiery Mills, Inc., capital \$100,000, incorporated; R. A. Maynard, E. H. Moore.

N. C., Burlington—John Shoffner, Pres., Standard Hosiery Mills, J. E. Moore and associates, let contract to T. H. Lutterloh for full fashioned hosiery mill on S. Broad St.; modern mill type construction, saw tooth roof, brick, 62x140 ft.; initial installation of 12 full fashioned machines, with provision for 40 additional; construction begin at once.

N. C., Charlotte—New England Waste Co., 549 Atlantic Ave., Boston, Mass., advises report company would erect warehouse and cotton waste plant at Charlotte, is incorrect, as company has no intention of doing so at the present time. 1-3

N. C., Hickory—Hickory Spinning Co. advises do not at this time have any definite plans for improvements growing out of consolidation of company with United Mills Co. of Mortimer. 12-20

N. C., High Point—Superior Hosiery Co. incorporated; J. J. Dell, O. B. Bonner.

N. C., Lexington—Pilot Hosiery Mills, Inc., begin constructing mill in Jan.

N. C., Marion—McPhar Hosiery Mill, capital \$50,000, incorporated; C. R. McCall, E. W. Parker; has building under construction; install 53 knitting machines; daily output 260 doz. pr. men's hose.

N. C., Siler City—Chatham Hosiery Mills, Inc., J. A. Thompson, Burlington, begun construction of brick hosiery mill; install 50 knitting machines.

N. C., Winston-Salem—Chatham Mfg. Co. increased capital stock, \$1,050,000 to \$2,500,000 by addition of \$700,000 in common stock and \$750,000 in 6% preferred.

S. C., Goldville—R. H. Bouligny, Inc., 27 W. First St., Charlotte, N. C., has contract for power and light wire for addition to Joanna Cotton Mills; Westinghouse Electric and Mfg. Co., Charlotte, N. C., and East Pittsburgh, Pa., has contract for additional transformer equipment; Lockwood Greene Engineers, Inc., Charlotte, N. C. 12-20

S. C., Anderson—J. & P. Coats, Providence, R. I., makers of spool thread, reported, establish plant near here.

S. C., Rock Hill—See Water Works.

S. C., Spartanburg—Arcadia Mills, reported, having plans prepared by Lockwood Greene Engineers, Inc., Charlotte, N. C., for bleachery unit; conc. foundations; brick walls; tar and gravel roof; sprinkler system.

Tenn., Bemberg, P. O. Elizabethton—American Glanzstoff Corp., 180 Madison Ave., New York, will begin work early in spring on erection additional unit, doubling present capacity of viscose rayon plant. 1-3

Tenn., Columbia—Chamber of Commerce, reported, negotiating with representatives of Caldwell & Co., Philadelphia, Pa., for full fashioned hosiery mill.

Tenn., Crossville—Negotiations, reported, completed with John C. Welwood, Pres., Miesch Mfg. Co., Paterson, N. J., for establishment of 60 loom silk ribbon mill, citizens to subscribe \$25,000 in preferred stock and to furnish a \$30,000 building.

Tenn., Shelbyville—Shelbyville Cotton Mills, receives bids Jan. 11 for mill unit; conc. footings; brick walls; built-up roofing; maple floors; sprinkler system; plans by J. E. Sirline & Co., Engrs., Greenville, S. C. Following contractors estimating: Norwood Griffin Co., Bona Allen Bldg., and A. K. Adams & Co., 542 Plum St., N. W. both Atlanta, Ga.; L. W. Hancock, Louisville Tr. Bldg., Louisville, Ky.; J. A. Gardner, 211½ N. Tryon St., Charlotte, N. C.; Fiske-Carter Construction Co., Masonic Temple Bldg.; Gallivan Building Co., Gallivan Bldg.; Potter & Shackelford, Inc., Allen Bldg., all of Greenville, S. C.

Virginia—W. M. Deisher, Pres., Ermentrout & Deisher Co., 18 N. Fifth St., Reading, Pa., advises regarding acquisition of hosiery mills at Big Stone Gap and Gate City have several plans under way; may incorporate one or both plants with active concern already operating; Federal Court has confirmed sale.

Va., Covington—Fiske-Carter Construction Co., Bldrs., Worcester, Mass., and Greenville, S. C., general contractors for plant of Industrial Rayon Corp., 98th St. and Walford Road, Cleveland, Ohio, let following additional sub contracts: Rough texture brick, Locher & Co., Glasgow, Va.; white enameled brick, American Enameled Brick and Tile Co., 420 Lexington Ave., New York City; common brick, Covington Brick Co., Covington; salt glazed brick, Stark Brick Co., Can-Pa.; roofing and sheet metal, J. A. Piper ton, Ohio; mastic flooring, Ralph V. Rulon, Inc., Hunting Park and E Sts., Philadelphia, Roofing Co., 116 W. Court St., Greenville, S. C.; J. E. Sirline & Co., Engrs., Greenville, S. C. 8-23

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.

Ala., Montgomery—City voted water works and sanitary storm sewer bonds. See Financial News. 12-6

Ark., Norphlet—City plans addition to water plant.

Ky., Louisville—Bd. of Public Works install 52 fire hydrants in southern part of city; K. A. Barker, Floyd and Lee Sts., and Henry Bickel Co., 435 Graden St., Contrs.

Mo., Kansas City—C. D. Whitmire Const. Co., 710 Midland Bldg., has contract at \$363,438 for rein. conc. reservoir.

Mo., Mountain Grove—City plans installing additional water mains.

Mo., Poplar Bluff—City plans voting in Feb. on bonds for filtration plant and settling basin. 12-27

Mo., St. Louis—Bd. of Public Service let contract to Frazier-Davis Constr. Co., Arcade Bldg., for channel in Mississippi River near Homers Dike, Chain of Rocks water works station.

Mo., Wellsville—City votes in spring on \$80,000 water bonds. 12-13

N. C., High Point—City receives bids Jan. 15 for water and sewer improvements. See Want Section—Bids Asked.

N. C., Wilmington—City, McKean Moffitt, Supt. Water Dept., expend \$70,000 for water works extensions; 3200 ft. of 24-in. c.i. mains, one 5,000,000 gal. pump. 12-20

Okla., Anadarko—See Electric Light and Power.

Okla., Fargo—City plans voting on water works bonds.

S. C., Greenville—Water Works Comm. will petition for \$160,000 bond issue for water works improvements.

S. C., Rock Hill—City voted \$300,000 bonds for water works system and ratified contract to supply water to Imperial Printing and Finishing Co.'s bleachery. 1-3

Tenn., Dayton—City plans extending water mains to communities outside city limits, including Morgantown.

Ten., Nashville—Nashville Machine and Supply Co., 123 Third Ave., N., has contract for water pipe fittings and 2000 lbs. pig lead for Water Dept.; city plans drain pipe connecting 16-in. service main at reservoir and 24-in. W. Nashville main; also has preliminary plans for water main to city and distribution main in city.

Tex., Collett—City votes Jan. 15 on \$35,000 water works bonds.

Tex., Dallas—See Roads, Streets, Paving.

Tex., El Paso—City receives bids Jan. 15 for pump house, etc. See Want Section—Bids Asked.

Tex., Fort Worth—Pitometer Co., Engrs., 50 Church St., New York, recommended construction of water works system for population of 450,000 people at cost of \$1,636,000.

Tex., Mount Calm—City voted \$40,000 water works bonds. 12-13

Tex., Port Neches—City having plans prepared for water and sewer system; will let contracts in Jan. 1-3

Tex., San Antonio—T. E. Barnes, 901 Victoria St., plans installing water works, distributing system and fire hydrants in 40 acre subdivision on West Cincinnati Ave.

Tex., San Antonio—City Water Bd. plans expending \$100,000 for improvements and replacements.

Tex., Weimar—City votes Feb. 5 on \$50,000 water works bonds.

Tex., Winters—City plans water works improvements; cost \$45,000; J. S. Barlow, Engr.

Va., Lynchburg—Richard F. Wagner, Director of Water, plans renewing gravity line at Devils Steps.

Woodworking Plants

Ark., Eureka Springs—S. H. Bullock and Son Bracket Co. erecting mill; company manufactures wooden brackets for stringing telephone and electric wires on poles.

N. C., Charlotte—Arenson-Smith Furniture Co., capital \$50,000, incorporated; L. Arenson, 525 Hawthorne Lane.

N. C., Elizabeth City—Southern Roller, Stave and Heading Co., capital \$100,000, incorporated; A. B. Houtz.

Tenn., Crossville—Farley & Maxwell establish veneer mill and handle plant.

Tenn., Knoxville—Chamber of Commerce interested in establishing furniture plant.

Tenn., Selmer—Voll-Yates Cooperage Co. erect stave and heading manufacturing plant; Mobile and Ohio Railroad Co. now laying spur tracks; company will employ 50 when work is begun.

FIRE DAMAGE

Ala., Auburn—Ben Moring's residence.

Ala., Ashland—Ashland Hotel owned by Jack W. Wallwork; loss \$40,000.

Ark., Bigsaw—Robt. Lloyd's residence.

Ala., Boaz—Gin No. 2 of Boaz Gin Co.; loss \$5000.

Ala., Mobile—S. B. Adams Lumber Co.'s storage shed and 4 dry kilns, Conception St. Rd. at Three Mile Creek; loss approx. \$75,000.

Ala., Monroeville—Monroeville Motor Co.

Ala., Northport—Freight and passenger station of Mobile and Ohio R. R. Co., B. A. Wood, Ch. Engr., St. Louis; loss \$10,000.

Ala., Sheffield—Buildings of J. C. Carmon, C. R. Sharp and Dr. D. T. Boozer; loss \$15,000.

Ark., Fordyce—Residences of Horace Launius and W. S. Alexander; loss \$9000.

Ark., Hot Springs—Gayoso Hotel, Bryant Apartments, Palace Hotel, Lyric Theater, Levy Trunk and Luggage Shop, Hot Springs Diamond Parlor; loss \$200,000.

Ark., Jonesboro—R. L. Muse Lumber Co.'s plant; loss \$80,000.

Ark., Mena—Two store buildings owned by M. M. Shields Estate; Wallace Townsend's store; loss \$11,000.

Ark., Pine Bluff—Pine Bluff Heading Co.'s plant, E. Sixth Ave.; loss \$50,000.

Ark., Rogers—First M. E. Church, Dr. Robt. Selle, Pastor; loss \$15,000.

Fla., Miami—Ambassador Club, 3343 N. W. 27th Ave., Jack Ford, Club Mgr.; loss \$10,000.

Ga., Brooklet—John McCormick's residence, owned by W. R. Altman.

Ga., Macon—Southern Crate & Veneer Co.'s plant, Poplar St.; loss \$150,000.

Ky., Hindman—Knott County courthouse; loss \$20,000. Address Bd. of Commrs.

Ky., Louisville—Weber Drug Co.'s building, 438 Market St.; loss \$10,000.

Ky., Winchester—Mrs. W. G. McCready's building occupied by Weisberger Department Store.

La., Alexandria—J. D. Kilgore's residence, store and filling station; loss \$10,000.

La., Cheneyville—R. A. Parrott's residence; loss \$10,000.

La., Greenwood—Little Inn, owned by B. J. Johnson; loss \$15,000; Edwin O. McClurg's store; I. R. Thwaitt's store; S. A. Alexander's store.

La., Monroe—Buildings owned by W. J. Sherrouse and Dr. C. H. Colex; loss \$60,000.

La., New Orleans—Schulze Stamp and Stencil Co.'s building; Eugene Dietzen Co.'s building; Garcia Stationery Co.'s building; loss \$100,000.

La., New Orleans—Lighting Fixture Supply Co.'s building; Panama Photo Engraving Co.'s plant.

La., Ruston—Horace Cassidy's residence, Jackson Parish.

La., Shreveport—Robinson-Slagle Lumber Co.'s woodworking plant; loss \$40,000.

Md., Baltimore—American Wool Stock Co.'s building, Fairmont Ave. and Haven St.; loss \$45,000.

Md., Towson, Baltimore—Calvary Baptist Church, Rev. Richard W. Wickes, Pastor; loss \$15,000 to \$20,000.

Miss., Holly Springs—Residence of J. R. Ramsey, Pres., Mississippi Industrial College; loss \$10,000.

Miss., Mize—Brock Bldg., owned by R. W. Royals & Son; Dr. R. B. Boykin's drug store; loss \$30,000.

Mo., Columbia—Chapter house of Alpha Delta Pi Sorority at University of Missouri; loss \$10,000.

Mo., Kansas City—Santa Maria Apartments, 115-17 W. 39th St., owned by C. F. and W. W. Norton, Hollywood; loss \$10,000.

Mo., Mineola—Old Trail Hotel on Highway 40 operated by Stanley Gregory.

Mo., St. Joseph—Main building, State Hospital No. 2; loss \$25,000. Address The Supt.

Mo., St. Louis—A. R. Fleming Printing Co.'s plant, 204 Olive St.; Delbridge Bros. Publishing Co.'s plant, 206 Walnut St.

Mo., St. Louis—Frank X. Hienmenz's residence, 2959 Milton St.; loss \$7,000.

N. C., Gibsonville—Residence, near Gibsonville, of O. W. Bright, New York; loss \$50,000 to \$75,000.

N. C., Hickory—Wm. Howard's residence, adjoining Howard-Hickory Nurseries, Burke County.

N. C., Mt. Airy—Goldsmith Bldg., occupied by 10 business concerns. Address The Manager; National Theater and Marion Music Store, owned by W. H. Marion; loss \$150,000.

N. C., Murfreesboro—Farmers-Atlantic Bank Bldg., owned by People's Bank; loss \$40,000.

N. C., Scotland Neck—Building occupied by law offices of Stuart Smith, Clement Kitchen and Wade Dickens. Corner Novelty Shop, owned by Joe Whitehead, etc.

S. C., Belton—W. P. Denman's residence; loss \$5,000 to \$7,000.

S. C., Cades—McGill Memorial Presbyterian Church bet. Indiantown and Cades.

S. C., Florence—Florence Tobacco Warehouse on N. Colt St. owned by J. W. Berger; loss \$15,000.

S. C., Newberry—John Fellers' residence.

S. C., Winnsboro—Monticello High School under construction at Salem Cross Roads; J. S. Heslep, Contr., Columbia.

Tenn., Franklin—J. A. Gray's residence, barn, garage, etc., Carter's Creek Pike; loss \$15,000.

Tex., Houston—Crown Central Oil Refining Co.'s stills and pipes; loss \$50,000.

Tenn., Jonesboro—James Dilworth's building occupied by Busy Bee, loss \$20,000; Boyd Bldg., occupied by City Drug Co. and Inter-mountain Telephone Exchange, loss \$25,000; Wood Bldg., occupied by Vine's Grocery and Jr. O. U. A. M. lodge room, loss \$40,000.

Tenn., Memphis—Four buildings of Aiken Co., Inc., cotton pickery; loss \$100,000.

Tenn., Nashville—Ben L. Northern's garage, 102 Third Ave.; loss \$50,000.

Tenn., Nashville—Mrs. B. B. Allen's residence, Franklin Pike; loss \$50,000.

Tex., Belton—W. P. Denman's residence; loss \$5,000 to \$7,000.

Tex., Big Spring—C. B. Edwards' residence near Big Spring.

Tex., Dallas—Building, Commerce St. near Fair Park, occupied by Sala Heater and Mantel Co., Eureka Springs Water Co. and Direct Service Co.; loss \$20,000.

Tex., Fort Worth—High Hardware Co.'s store, 1005 Houston St.; loss \$40,000.

Tex., Lockhart—Barn on Martin McMahan farm, 10 mi. from Lockhart; loss \$10,000.

Tex., Malakoff—Hawn Lumber Co.'s stock and adjoining buildings; loss \$25,000.

Tex., Marshall—Girls' dormitory at Marshall College; loss \$50,000.

Tex., Paris—Walter Murphy garage and tire store; loss \$15,000.

Tex., Richmond—N. J. Middlebrooks' cotton gin; loss \$20,000.

Tex., Roaring Springs—West Texas Gin Co.'s plant; loss \$40,000.

Tex., San Antonio—Baylor Hospital nurses' home.

Tex., San Marcos—Girls' dormitory for students of Southwest Texas State Teachers College, building owned by Mrs. J. A. Ward.

Tex., Sweetwater—Avery Furniture Store; Sweetwater Candy Kitchen; Ginsberg Grocery Store.

Tex., Sulphur Springs—Building owned by Bush Estate, Greenville, occupied by Main Drug Store, A. B. Bohannon and Haggard Barber Shop.

Tex., Temple—Temple High School gymnasium; loss \$12,000. Address Bd. of Education.

Tex., Taylor—S. E. Taylor's residence; loss \$10,000.

Tex., Upton—John Young's general store.

Tex., Waller—B. F. Quinn's residence.

Tex., Yoakum—Eck May Furnishing Store; loss \$25,000.

Va., Alexandria—Fairfax Apartments, King and Columbus Sts., owned by A. S. Doniphan; loss \$100,000.

Va., Lynchburg—D. Moses & Co., Inc.'s department store, loss \$50,000; Snyder & Berman, Inc.'s building, loss \$75,000; McGeehe Furniture Co.'s store, loss \$25,000.

W. Va., Anawalt—Foreman Bros. Department Store; Atlantic and Pacific Tea Co.'s store; Kasdin Bros.' general store; loss \$60,000.

W. Va., Fairmont—Building with apartment on second floor, owned by J. C. and J. D. Connor.

W. Va., Fairmont—Harry G. Fletcher's residence, Barnes St.

W. Va., Iager—Halsey Bailey's residence and adjoining bldg.; loss \$15,000; furnishings \$6,000.

W. Va., Lansing—S. F. Bowling's store, containing post office.

W. Va., Williamson—Dollar Limit Store owned by I. Steckler; loss \$10,000.

Hawk & Parr, 1019 First Natl. Bk. Bldg., Oklahoma City, Archts.

Okla., Seminole—Modern Woodmen of America erect \$20,000 lodge building; 2 stories; first floor for auto agency.

S. C., Greenwood—Order of Eastern Star erect building, Connie Maxwell Orphanage.

Tex., Corpus Christi—Salvation Army, Capt. Wm. Workman, considering erecting building.

Va., Norfolk—Young Men's Christian Assn., Burt S. Fenn, Gen. Sec., sold building; plans \$350,000 to \$500,000 structure; probably 4 stories, 140 to 150 rooms, swimming pool; to retain present structure until Sept. 1.

Bank and Office

Ala., Birmingham—Reeves Bros. Co., Martin Bldg., erect 1 story and basement office bldg., 15th Ave. and 50th St.; rein. conc. and brick, stone trim, built-up roof, steam heat; Warren, Knight & Davis, Archts., Protective Lift Bldg.

Ala., Ensley—Ensley Holding Co., Birmingham, receiving bids for superstructure of 10-story Ramsay-McCormack Bldg.; basement completed to first floor level; \$350,000, rein. conc., frame, brick, stone and terra cotta, 60x111 ft., tile, conc. and terrazzo floors, copper and tile roof, struct. steel, hollow tile, gypsum block partitions, orn. steel, iron and bronze, kalamein doors; Brooke B. Burnham, Archt., Age-Herald Bldg.; W. C. Spiker, Engr., Empire Bldg.; E. W. Brunnell, Mech. Engr., Amer. Tr. Bldg., all Birmingham. 11-22

Ala., Phenix City—Phoenix-Girard Bank, C. L. Mullin, Pres., let contract to Diebold Safe and Lock Co., Canton, Ohio (Southern Branch, 527 Carondelet St., New Orleans, La.), for vault equipment.

La., Baton Rouge—Lafayette Realty Co., Lewis Gottlieb, Pres., receiving bids, to be opened about Jan. 31 by Archt., for steel, brick and stone trim Medical Arts Bldg.; \$350,000, 9 stories, fireproof, garage; Edw. F. Neild, Archt., City Bank Bldg., Shreveport. 12-20

La., New Orleans—New Orleans Refining Co., United Fruit Bldg., has low bid at \$44,949 from Dudley & Wike Construction Co., Stern Bldg., for office bldg., Norco; Weiss, Dreyfous & Seifert, Archts., Maison Blanche Bldg. 12-27

Mo., Independence—First National Bank, B. Zick, Pres., soon start work on \$150,000 bank and office building, Lexington Ave. and Liberty St.; brick, 5 stories, mezzanine and basement, 44x80 ft.; elevators; Madorie & Blhr, Archts., Continental Bldg.; H. Noble, Struct. Engr., Security Bldg., both Kansas City. 10-4

Tenn., Chattanooga—J. B. Pound, Lookout Mountain, plans 15-story bldg.; \$300,000 to \$350,000, about 50x50 ft.

Tex., Beaumont—First National Bank plans bank building, Orleans and Bowie Sts.; Orleans Drug Co. has lease on property; advises building program not complete, architect not selected.

Tex., Port Arthur—S. Sassine, 1003 Procter St., erect \$35,000 to \$40,000 office building, Procter St. and Mobile Ave.; brick, 2 stories, 50x140 ft.

Tex., San Angelo—C. C. McBurnett, St. Angelus Hotel, receives bids Jan. 21 for rein. conc. and stone office bldg., Beauregard and Irvin Sts.; \$300,000, fireproof, 6, 8 or 10 stories, 50x100 ft., terrazzo and conc. floors, Barrett specification roof, 12-ft. foundation; Anton P. Korn, Archt., Thomas Bldg., Dallas; B. M. Morgan, Asso. Archt., San Angelo Natl. Bk. Bldg., San Angelo. 1-3

Tex., San Antonio—Central Trust Co., 313 E. Houston St., has low bid at \$25,921 from R. C. Shane to remodel bldg.; Robt. B. Kelly, Archt., Milam Bldg. 12-27

Churches

Ala., Bessemer—First Methodist Church, F. B. Buck, Chmn., Bd. of Stewards, plans \$150,000 church to replace structure lately noted burned.

Ala., Bessemer—Mt. Olive Baptist Church, Rev. W. F. Vaughn, Pastor, Route 1, Box 458, raising funds for \$20,000 building; B grade, cement block and hollow tile, 2 stories, 40x80 ft., conc. foundation, comp. shingle roof; drawing plans. Address W. A. Rayfield & Co., Archts., Drawer 649, Birmingham.

Ark., England—Baptist Church plans building. Address The Pastor.

Ala., Mobile—Northside Baptist Church, Dr. R. M. Hunter, 456 State St., erect \$10,000 building, 206 State; brick, 40x70 ft., built-up roof; ready for bids about Feb. 15.

Ark., Rogers—First M. E. Church, Dr. Robt. Selle, Pastor, repair church damaged by fire at \$15,000 loss.

Fla., West Palm Beach—First Presbyterian Church, Rev. Jos. T. Britan, Pastor, plans building on new site.

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Ga., Moultrie—Pine Forest Camp, W. O. W., O. B. Sloan, Council Commdr., plans \$50,000 building.

La., Plaquemine—Plaquemine Council, K. of C., soon have plans ready for \$15,000 lodge and dance hall bldg.; rein. conc., brick, cast stone trim, 2 stories, 34x117 ft., rein. conc. foundation, tile roof, struct. steel and iron

work; Wm. R. Burk, Archt., Balter Building. 10-25

Miss., Kosciusko—Ancient Free and Accepted Masons, C. T. Sweatte, Worshipful Master, plans temple.

Okla., McAlester—Masters of the Bodies of Ancient and Accepted Scottish Rite, Golden Pennebaker, Sec., receive bids until Feb. 2 for rebuilding Scottish Rite Temple; \$600,000 to \$700,000; Wm. T. Schmitt and

La., Moweta—Roman Catholic Church receiving bids, to be opened about Jan. 31, for rein. conc., brick and stone trim bldg.; \$30,000, rein. conc. foundation, built-up comp. and tile roof, sheet metal work; Wm. R. Burk, Archt., Balter Bldg., New Orleans; following contractors estimating: Eugene Guillot, New Iberia, La.; Gervais F. Favrot, Balter Bldg.; Gitz & Geier, 8133 Oak St., both New Orleans; R. L. Roland, Alexandria; J. A. Duhe, Hahnville; E. E. Rebelais, Bunkie. 11-22

La., Shreveport—First Methodist Church considers erecting \$200,000 addition.

Mo., Chaffee—Methodist Episcopal Church, South, plans \$30,000 building, site present structure, Parker and Third Sts.; brick or stone, asbestos slate shingle roof, steam heat; plans by H. M. King, Archt., Bd. of Extension of M. E. Church, South, Louisville, Ky.

Mo., Springfield—First Presbyterian Church receives bids until Jan. 16 for bldg.; \$175,000, brick and stone trim or brick faced with stone, 41x127 ft. with 41x128, 41x128-ft. wing, hardwood floors, conc. foundation, asbestos slate or natural slate roof; furnishings, equipment, etc., \$10,000; A. A. Honeywell, Archt., Pennway Bldg., Indianapolis, Indiana.

N. C., Charlotte—H. M. Wade, S. Graham St., erect \$35,000 residence, 704 Hermitage Rd.; brick, 2 stories.

N. C., Hendersonville—Star of Bethel Baptist Church, Rev. E. B. King, Pastor, erect \$30,000 building; B grade, brick and tile, 2 stories, 50x70 ft., pine floors, conc. foundation, 4-ply roof; furnishings, equipment, etc., \$10,000; drawing plans. Address W. A. Rayfield & Co., Archts., Drawer 649, Birmingham, Ala.

Okla., Altus—Macedonia Baptist Church, Rev. O. R. Short, Pastor, erect \$30,000 building; brick and tile, 2 stories, 50x90 ft., pine floors, conc. foundation, comp. shingle roof; drawing plans. Address W. A. Rayfield & Co., Archts., Drawer 649, Birmingham, Ala.

Tenn., Knoxville—First Unitarian Church, Rev. Geo. Kent, Pastor, plans \$16,000 building.

Tenn., Memphis—Roman Catholic Church, care Geo. Mahan, Jr., Archt., Amer. Bank Bldg., erect brick and stone building, Jackson Ave.; 1 story and basement, wood floors, stone trim, steam heat; drawing plans.

Tenn., Memphis—Roman Catholic Church, Rev. James B. Albert, Pastor, 327 High St., considers erecting building.

Tenn., Memphis—St. Bridges R. C. Church, Rev. Father Whitfield, Pastor, erect brick and stone building, Jackson Ave. and Dickinson St.; 1 story and basement; Geo. Mahan, Jr., Archt., American Bank Bldg.

Tex., Breckenridge—Hebrew Congregation, C. M. Bender, Chmn., Bldg. Comm., has permit for \$25,000 synagogue.

Tex., Crosbyton—First Baptist Church has broken ground for brick building. Address The Pastor.

Tex., Houston—First Christian Church, Rev. Harry G. Knowles, Pastor, R. W. Jenkins, Chmn., Bldg. Comm., plans 4-story and basement church bldg., Main St. and Bell Ave.; foundation to permit ultimate erection of 2-story church and office building; first unit \$600,000, total \$2,800,000; 125x175 ft., 9 stories on first floor, main auditorium on mezzanine floor accommodate 2200; additional auditorium to seat 600 for conventions, banquets, etc.; Sunday school accommodate 3000. 11-15

Tex., Houston—First Presbyterian Church, Dr. Wm. States Jacobs, Pastor, purchased 5-acre tract, Main and Bissonett Sts.; plans to sell present structure and erect new building.

Tex., Port Arthur—Baptist Church, J. M. Reagan, Temporary Chmn., Bldg. Comm., erect bldg., Fourth Ave. and Thomas Blvd., to be called Fourth Ave. Baptist Church.

Tex., San Angelo—Emmanuel Episcopal Church, Rev. A. E. Whittle, Pastor, erect \$30,000 building; stone and brick, 2 stories, 50x90 ft., pine floors, conc. foundation, comp. shingle roof; furnishings, equipment, etc., \$10,000; drawing plans. Address W. A. Rayfield & Co., Archts., Drawer 649, Birmingham, Ala.

Tex., San Antonio—Highland Park Lutheran Church has low bid at \$17,998 from G. W. Mitchell, Builders Exch. Bldg., for bldg.; Seutter & Simons, Archts., Bldrs. Exch. Bldg. 12-20

Tex., Wichita Falls—First Methodist Church, J. J. Perkins, Chmn., Bldg. Comm., plans Sunday school, Travis St.; nothing yet definite.

City and County

Ala., Montgomery—City, W. A. Gunter, Mayor, voted \$150,000 bonds for fire station extension and fire equipment.

La., Algiers, New Orleans—Behrman Memorial Assn. has low bid at \$38,950 from Thos. H. Brockman, Canal Bk. Bldg., for gymnasium, Newton St.; plans by A. S. onMitz, City Archt.

La., New Orleans—Commission Council opens bids Feb. 11 for criminal courts and parish prison bldg., Tulane Ave. and Broad St.; \$1,750,000, Classic design, granite base, stone, 4 stories, 435 ft. long, 70 ft. high, 16 limestone pillars to height of bldg.; 7 court-rooms, each 2 stories high, about 45x40 ft., on second floor; parish prison and house of detention adjoining bldg. at rear, connected by passageway, to accommodate 800 prisoners; Diboll & Owen, Ltd., Archts., Canal Bk. Bldg. 11-15

La., New Orleans—Commission Council opens bids Feb. 11 for municipal auditorium, Beaugard Square; \$2,000,000; auditorium proper seat 6500, 210x320 ft., with annex 70x320 ft., to seat 3500; stage may be lowered to provide for 2000 additional seats bet. auditorium and annex; convention hall, theater, exhibition space, auxiliary meeting room and dressing rooms; Favrot & Livaudais, Ltd., Archts., Hibernia Bldg.; Sam Stone, Jr. & Co., Const. Archts., Masonic Temple Bldg.; Leigh Carroll, Chmn., Auditorium Comsn. 1-3

La., Shreveport—City Comsn. rejected bids for plumbing, heating and ventilation and sprinkler system for \$500,000 municipal auditorium under constr.; receives new bids Jan. 15; Jones, Roessle, Olschner & Weiner, Archts., Ardis Bldg.; Seymour Van Os, Asso. Archt., Merchants Bldg.; Glassell-Willson Co., Contr., 501 Texas St. 11-22

Miss., Clarksdale—City voted \$30,000 bonds for addition to Carnegie Library. Address City Council.

Tenn., Memphis—City, Cliff Davis, Fire and Police Comm., considers erecting \$15,000 fire station, Highland Heights; brick, 1 story and basement, conc. floors, comp. shingle roof.

Tenn., Nashville—Davidson County Highway Comsn. has low bid at \$84,599 from E. G. Holladay, 151 Fourth Ave. N., for workhouse; Asmus & Clark, Archts., Nashville Tr. Bldg. 12-13

Tex., Center—City Council considers erecting city hall-fire department building.

Tex., Houston—Harris County, Norman Atkinson, County Judge, plans to enlarge County Home, Crosby Rd.

Tex., San Antonio—City, C. M. Chambers, Mayor, erect community center bldg., Woodlawn Lake; stone and rein. conc., 1 story, about 90x130 ft.; sketches being drawn by City Engineering Dept.

Tex., San Antonio—City, C. M. Chambers, Mayor, erect \$75,000 library for negroes, S. Hackberry St. near Center St.; Seutter & Simons, Archts., Builders Exch. Bldg.

Dwellings

Ala., Anniston—E. P. King receives bids Jan. 15 for Colonial residence; frame, 2 stories and basement, hardwood floors, tile baths, Eternit shingle roof; Owen J. Southwell, Archt., Haas-Howell Bldg., Atlanta, Ga.; following contractors estimating: A. H. Little, Ogletree Construction Co.; C. S. Duke, all Anniston.

Ala., Birmingham—I. F. Perkins, 2225 Redge Park Ave., erect brick veneer residence, Mountain Brooke Estates; 2 stories; E. B. Van Keuren, Inc., Archt., Comer Bldg.; bids in.

Ala., Birmingham—G. C. Lockhart, 1201 S. 22nd St., erect \$25,000 brick and stone residence and garage, Forrest Park; 2 stories, tile roof, vapor heat; J. F. Surman, Archt., Comer Bldg.; drawing plans.

D. C., Washington—Henry J. Connor, Chastleton Hotel, has permit for \$12,000 residence, 4543 Klinge St., N. W.; 3 stories, brick.

D. C., Washington—Home Savings Co. has permit for 2 brick and cinder block dwellings, 700 block Morton St., N. W.; 2 stories; \$20,000.

Fla., Daytona Beach—R. E. Olds, Lansing, Mich., reported, receives bids Jan. 15 for \$200,000 residence, 1412 S. Peninsular Drive; Italian type, tile and stucco, 2 stories and basement, 9 rooms and bath, tile roof, Baker system of oil heating; John Rodgers Co., Archt., 508 Bellevue Ave., Daytona Beach. 11-29

Fla., Manatee, Bradenton—Luis F. Ross erect residence, 17-acre farm, Ninth Ave.; frame, 2 stories.

Fla., Miami Beach—W. E. Watson erect \$10,000 residence and garage, 1664 Jefferson Ave.; conc. block and stucco; O. M. Bristol, Contr., 2045 N. W. Fourth St., Miami.

Ga., Atlanta—Ernest G. Beaudry, 169 St. Augustine Place, erect residence, Andrews Drive section.

Ga., Atlanta—Judge John S. Candler, Candler Bldg., erect residence, Lullwater Road, Druid Hills.

La., Lake Charles—C. B. Monday, 922 Kirby St., remodel residence; \$11,000.

La., New Orleans—Geo. M. Upton, 2006 Jefferson Ave., erect Colonial residence, N. Line St. and Hector Ave., Metairie Club Gardens; frame, 2 stories, 57x45 ft.

La., New Orleans—Geo. Sims, 3123 College Ct., erect 2-story single residence.

Mo., St. Louis—W. H. Pape, Vice-Pres., Lammert Furniture Co., 911 Washington St., plans country residence, Picardy Lane.

Mo., St. Louis—C. A. Singleton, 2519 Bellview St., erect residence, Middlesex Drive, York Village; Dan H. Mullen, Jr., Archt., 18 N. Meramec St.

Mo., St. Louis—Edw. Sucher, care Schulte & Tarling, Archts., Grand-St. Louis Bldg., erect brick duplex, Bel-Nor sub-division; brick, 2 stories and basement, hardwood floors, tile roof, stone foundation, hot water heat.

Mo., St. Louis—Edw. Ellerman, care Man-ske & Bartling, Archts., 4526 Olive St., erect brick, stone and stucco residence; 2 stories and basement, 77x33 ft., hardwood floors, tile baths, slate roof, hot water heat, elect. refrigerator.

Mo., St. Louis—Gill & Jackson, Buder Bldg., drawing plans for \$12,000 brick dwelling, Kennerly Rd.; 1½ stories and basement, 44x25 ft., tile bath, oak floors, comp. shingle roof, capor heat.

N. C., Charlotte—Mrs. Mattie Patterson erect \$10,000 residence, 708 Grandin Rd.; brick veneer, 2 stories.

N. C., Winston-Salem—Wachovia Building Co., Nissen Bldg., erect \$10,000 dwelling, Arbor Road near Greenbrier St.; 2 stories, 7 rooms.

Okla., Oklahoma City—Leon G. Vorhees receives bids Jan. 17 for residence; brick, terra cotta and timber, 2 stories, 3-car garage and servants' quarters; Holt, Price & Barnes, Archts., Kansas City, Mo.

Tenn., Chattanooga—D. M. Patten receives bids Jan. 29 for fireproof residence, Lookout Mountain; \$150,000, rein. conc. and struct. steel, 3 stories, native stone walls, brick and tile, hardwood, tile and comp. floors, slate roof, steel sash; Pringle & Smith, Archts., Norris Bldg., Atlanta, Ga.; estimators lately noted. 1-3

Tenn., Knoxville—Cooper-Coffman Corp. erect 9 dwellings, Holston Hills, during Spring; various designs; \$180,000.

Tenn., Knoxville—Will F. Akers erect \$20,000 residence, Scenic Drive near Kingston Pike; white brick, 2 stories, English type; A. E. Gredig, Archt., Mercantile Bldg.

Tenn., Memphis—Knapp & Chandler, Derron Bldg., erect \$22,500 dwelling, Iroquois Road; brick, 2 stories and basement, oak floors, tile baths, comp. shingle roof, steam heat, garage and servants' quarters.

Tenn., Memphis—Henry Burnside, 835 Annie St., erect brick veneer residence; 1 story, oak and pine floors, comp. shingle roof.

Tenn., Memphis—Chickasaw Gardens Corp., 153 Monroe Ave., erect \$22,500 painted brick dwelling, Iroquois Rd.; 2 stories and basement, oak floors, tile baths, comp. shingle roof, steam heat; Knapp & Chandler, Archts., Derron Bldg.

Tenn., Memphis—Lamar Heiskell, Bank of Commerce Bldg., erect Colonial residence, Parkway; brick veneer, 2 stories, 4 baths; Anker F. Hansen, Archt.; let contract about 30 days.

Tenn., Nashville—L. Stewart, 4606 Nebraska Ave., erect face and common brick veneer residence; 2 stories and basement, 33x41 ft., tile bath, hollow tile, Genasco Standard comp. roof, steam heat; Welby N. Pugin, Archt., 149 Sixth Ave., South.

Tenn., Nashville—Edw. Swain, Belle Meade, erect clinker brick, brick veneer residence; 1 story and basement, 81x38 ft., tile, oak and pine floors, rein. conc. foundation, galv. iron roof, warm air heat; Jos. W. Hart, Archt., Jackson Bldg.

Tex., Austin—A. D. Bolm, 1306 West Ave., erect \$25,000 residence, 24th St. and Windsor Rd., Enfield; brick veneer, 2 stories and basement, oak floors, tile bath and terraces, tile roof, incinerator, gas furnace heat; H. F. Kuehne, Archt., Littlefield Bldg.; plans soon completed.

Tex., Houston—R. G. Pearce and J. E. Pearce, 714 Marine Bk. Bldg., applied for incorporation papers; erecting number poured conc. fireproof dwellings.

Tex., Houston—H. C. Vogt, 2411 Binz St., erect \$10,000 duplex, 1214 Milford St.; brick veneer, 14 rooms.

Tex., Houston—J. W. Northrop, Jr., Archt., Kirby Bldg., about completed plans for Colonial dwelling, South Blvd.; brick veneer, 2 stories, 9 rooms.

Tex., San Angelo—Joe Blakeney, 427 W. Concho St., erect \$25,000 residence; brick veneer, 2 stories, 50x35 ft., oak floors, conc. foundation; Anton F. Korn, Archt., Thomas Bldg., Dallas, Tex.; B. M. Morgan, Archt., San Angelo Bk. Bldg., San Angelo. 1-3

Tex., San Angelo—Eugene Mays erect \$10,000 residence, 150 S. Madison St.; brick veneer and timber.

Tex., San Antonio—Dr. Augustus F. Herff, Med. Arts Bldg., receives bids Jan. 10 for Colonial residence, Terrell Hills; frame and stucco, 2 stories, 7 rooms, 2 baths; Herff & Jones, Archts., San Antonio Loan & Tr. Bldg.

Government and State

Fla., Miami—Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington, D. C., selected site, N. E. Third St. to N. E. Fourth St., for post office. 5-3

Tex., Fort Sam Houston, San Antonio—Constructing Quartermaster, Fort Sam Houston, soon call for bids for paving and curb work; includes 7,000 yds. paving, 3,100 linear ft. curb, Road No. 18; 1,700 yds. asphaltic topping, 1,600 linear ft. curb, Shirley St. and 200 yds. service roads and 1,200 linear ft. curb. 11-29

Hospitals, Sanitariums, Etc.

Ala., Birmingham—Hillcrest Sanitarium, Dr. Jas. A. Becton, 7000 S. Fifth Ave., erect hospital; E. B. Van Keuren, Archt., Comer Bldg.

Ala., Tuskegee—United States Veterans Bureau, L. H. Tripp, Ch. Constr. Div., Arlington Bldg., Washington, D. C., has low bid at \$269,000 from W. P. Thurston Co., Inc., Richmond Tr. Bldg., Richmond, Va., for acute building, U. S. Veterans Hospital; fireproof, rein. conc., brick, stone trim, 2 stories and basement, built-up roof; low bid for elevator from Westbrook Elevator Co., Spring St., Danville, Va., at \$3800. 12-27

La., New Orleans—Tulane University, A. B. Dinwiddie, Pres., having plans drawn by Favrot & Livaudais, Ltd., Archts., Hibernia Bldg., for \$1,000,000 clinic bldg., adjoining Charity Hospital, to replace Hutchinson Memorial Bldg., Canal St.; will also establish out-patient clinics for teaching purposes. 1-3

La., Shreveport—Following contractors estimating on improvements and additions to boiler house, Charity Hospital; bids Jan. 24: Tom Green; Glassell-Wilson Co., 501 Texas St.; Werner Co., Commercial Bk. Bldg.; H. & B. Construction Co., Ricou-Brewster Bldg.; Bain-Beard Co., 829 Reynolds St. 1-3

Miss., Clarksdale—City voted \$15,000 bonds for Clarksdale Hospital. Address City Council.

Mo., Kansas City—Jewish National Hospital Assn., Henry A. Auerbach, Pres., Dwight Bldg., about March 1 will call for bids through Archts. for fireproof hospital, 50th St. and Troost Ave.; \$850,000, 8 stories, terrazzo, conc. and tile floors, slate and comp. roof; 125 beds; Schmidt, Garden & Erikson, Archts., 104 S. Michigan Ave., Chicago, Ill.; Greenebaum, Hardy & Schumacher, Consult. Archts., Scarritt Bldg., Kansas City. 1-3

N. C., Southport—Brunswick County Community Hospital, erect hospital; funds from Duke Endowment; bids in.

Tenn., Knoxville—Hamilton Dental Infirmary, 219½ S. Gay St., remodel second floor of United Cigar Co. bldg., Gay St. and Union Ave.; additional equipment; \$50,000.

Va., Nassawadox—Virginia Dept. of Health, Richmond, erect building, Northampton-Acomac Memorial Hospital, for branch laboratory; A. A. Shanks, Bacteriologist, care Hospital.

Hotels and Apartments

Ala., Mobile—H. C. Lowenstein, 59 St. Francis St., erect 9-story hotel, Government and Royal Sts.; Arthur P. Hess, Archt., 331 Madison Ave., New York.

La., Grand Isle—John, Harold and N. Ludwig plan tourist hotel.

La., Shreveport—Elias Goldstein, First Natl. Bank Bldg., lately reported representing interests planning erection \$500,000 to \$600,000 hotel advises that it was decided to postpone for present consummation of plan. 1-3

Miss., Jackson—Thos. M. Sharp, Pres., Southern Apartment Co., erect \$75,000,

3-story, brick, 16-apartment on N. State St.; financed by Reid-McGee & Co., Lamar Bldg.

Mo., Clayton, Sta. St. Louis—Claybourne Real Estate Co., 7820 Forsythe St., erect \$25,000, 54x52 ft., brick apartment, Bemis addition.

Mo., Springfield—H. L. Schneider, F. C. Hermann, 536 South St., and associates, reported, organize company and erect \$600,000, 12-story, brick, cut stone and terra cotta, 275 to 350-room hotel, South Ave. and Pershing St.

N. C., New Bern—J. V. and L. C. Blades plan expending \$50,000 for improvements to Gaston Hotel; extend lobby, improve rooms, add cafe, new furnishings.

N. C., Winston-Salem—Winston-Salem Hotel Co., reported, erect 12-story, 150-room addition to Robert E. Lee Hotel; 60 x 100 ft., brick, conc. and steel; \$500,000.

N. C., Winston-Salem—Burton Brothers have permit for \$15,000, 2-story, frame and brick veneer, 4-family apartment, Irving St., between Hawthorne Road and Academy St.

Okla., Norman—W. W. Kraft, reported, having sketches prepared for \$250,000, 4-story, rein. conc. and brick hotel.

Okla., Oklahoma City—P. H. Weathers, Archt., Oil Exchange Bldg., reported, preparing plans for \$200,000, 6-story and basement, 75x140 ft., rein. conc. and brick apartment.

Tenn., Johnson City—Dougherty & Gardner, Archts., Cotton States Bldg., Nashville, ready for bids about Jan. 15 for \$200,000 apartment building.

Tenn., Knoxville—Mr. B. L. Chambers, 625 S. Gay St., plans to erect \$150,000, 3 or 4-story, brick or stucco, fireproof, 40-apartment in West Knoxville.

Tenn., Knoxville—W. C. Terry, 325 W. Clinch Ave., plans \$150,000 to \$200,000, 6 or 8-story, brick, steel and conc., fireproof apartment hotel; automatic elevators; R. F. Graf & Son, Archts., Journal Bldg.

Tenn., Memphis—J. C. Ford, care W. C. Lester, Archt., Derman Bldg., erect \$50,000, 2-story and basement, brick veneer, 16-apartment, S. McLean St.; comp. and tile roof, oak floors, steam heat.

Tex., Dallas—T. L. Lawthorn has permit for \$17,000, 2-story, brick veneer 8-apartment, 2819 Welborn St.

Tex., Del Rio—C. P. Scales and R. W. Sellers erect 50-room hotel and 20 tourist cottages, Blaine's Lake on Devil's River near Del Rio; Morris & Noonan, Archts., Builders Exchange Bldg., San Antonio. 12-27

Tex., Eagle Pass—Eagle Pass Hotel Co. has low bid at \$32,621 from Sumner Sollitt Co., Natl. Bk. of Commerce Bldg., San Antonio, for 4-story annex and 1-story addition to Eagle Hotel, brick and conc.; plumbing, \$17,749, West & Gutzelt; John M. Marriott, Archt., Frost Bldg., San Antonio; Roy W. Leisale, Asso. Archt. 12-13

Tex., Port Arthur—Harvey W. Gilbert, Gilbert Bldg., Beaumont, and associates, erect \$3,000,000, 1000-room hotel on Lakeshore Drive. Edgewater Beach Hotel Co., 5349 Sheridan Road, Chicago, lately incorporated reported negotiating for site for hotel. 12-13 and 12-27

Tex., San Antonio—J. F. King, 306 Furr Drive, has permit for \$12,000, brick veneer, 16-apartment, 514 Fulton Ave.

Tex., San Antonio—Associated Securities Corp., W. C. Gruber, care John M. Marriott, Archt., Frost Bldg., erect \$225,000, 7-story, brick and rein. conc., Spanish type, 44-apartment hotel, Main Ave. and Gullbeau St.; Roy W. Leisale, Asso. Archt., 410 Kings Court.

Va., Ocean View, Sta. Norfolk—Otto Wells, Dickson Bldg., reported, interested in erection of \$500,000 tourist hotel.

Miscellaneous

Fla., Coral Gables—Interstate Finance Corp., Miami, has low bid from C. C. Haner, 848 Malaya St., for remodeling interior of coliseum; J. C. Gault, Archt., Commercial Arcade, Miami. 12-20

Ga., Atlanta—Dr. Thos. P. Hinman, Chmn., Bldg. Comm., Fourth Natl. Bank Bldg., alter and erect additions to 1-story and basement, 19x48 ft., brick building on Peachtree Road for museum; Pringle & Smith, Archts., Norris Bldg.

Ky., Louisville—Park Bd. erect \$25,000 to \$30,000, 2-story, 62x42-ft. non-fireproof clubhouse in Shawnee Park; Joseph & Joseph, Archts., Francis Bldg.; W. C. Wagner, Asso. Archt., 615 S. Western Pkwy. 1-3

La., New Orleans—Touro-Shakespeare Alms House, 3700 Dannel St., having plans prepared by Wm. R. Burk, Balter Bldg., for group of brick and fireproof buildings in Algiers. 11-22

N. C., Lexington—Junior Orphans' Home, W. M. Shuford, Supt., plans boys' dormitory.

Okla., Tulsa—Oklahoma Amusement Co., B. B. Harris, Pres., 318½ N. Greenwood St., having preliminary plans prepared for amusement park, including gymnasium, bowling alleys, on Sheridan road.

Tex., Donna—Valley Orchards, Inc., care Robt. L. Vogler, Archt., Edinburg, soon call for bids for \$12,000, 2-story, 40x40 ft., frame and stucco clubhouse and residence; tile roof, hardwood floors.

W. Va., Huntington—Woman's Club, Mrs. M. J. Ferguson, Pres., erect clubhouse.

Railway Stations, Sheds, Etc.

Mo., Kansas City—Missouri Pacific R. R. Co., E. A. Hadley, Ch. Engr., Missouri Pacific Bldg., St. Louis, advises not preparing plans for freight station. 12-27

Mo., St. Louis—Interstate Commerce Comm. approved plans of Illinois Traction System for \$1,385,000 freight station and office building at Twelfth Blvd. and Lucas Ave., in connection with subway and elevated line to downtown district from McKinley Bridge, North St. Louis; plans to begin work by May.

Schools

Ala., Florence—State Bd. of Education, Montgomery, selected Warren, Knight & Davis, Protective Life Bldg., Birmingham, to prepare plans for buildings to be erected as Normal Schools at Florence, Troy, Livingston and Jacksonville, Daphne and Montgomery; \$1,700,000; classroom building, central heating plant and dormitory at each school.

Ala., Gadsden—Alabama School of Trades plans to start soon on \$250,000 building program.

Ala., Gadsden—Bd. of Education plans addition to Gadsden High School, elementary school, Tuscaloosa Ave. and Henry St.; also several schools in East Gadsden.

Ala., Livingston—Sumter County Bd. of Education, R. H. Southerland, Supt., receives bids Jan. 15 for brick school.

Ala., Montgomery—Montgomery County Bd. of Education, L. C. Cardinal, Pres., receives bids Jan. 31 for 2-story fireproof Jr. High School; \$150,000, brick, stone trim, built-up roof, conc. and terrazzo floors, steam heat; plans from Frederick Ausfeld, Archt., Shepherd Bldg. 10-11

Ala., Tusculum—Bd. of Education, A. H. Carmichael, member, erect building to replace grammar school destroyed by fire. 12-27

Ark., Mulberry—School Bd. rebuild school destroyed by fire; \$15,000 to \$25,000, 1 story, probably brick.

Ark., Subiaco—Subiaco Abbey and College Trustees selected E. Gray Powell, 1122 Powell St., St. Joseph, Mo., to prepare plans for chapel, quadrangle, monastery quarters, college buildings and library for Subiaco Monastery to replace structures destroyed by fire; \$700,000 to \$800,000; Romanesque architecture, fireproof. 5-3

D. C., Washington—Columbus University, Chas. W. Darr, Pres., Bd. of Trustees, considering erecting building.

D. C., Washington—District Commrs., Room 509, District Bldg., receive bids Jan. 18 for \$178,000, 8-room addition to Raymond School, Spring and Rock Creek Roads; also erect combination gymnasium and assembly hall addition and remodel Takoma School; bids in; plans from Room 427, District Bldg. 12-27

Fla., West Palm Beach—Palm Beach County Bd. of Public Instruction erect 6-room frame school, between Parker and Lake Aves., north of Southern Blvd.; also \$10,000, 4-room tile and stucco elementary school at Latana; Wm. Manley King, Archt., Harvey Bldg.

Ga., Hapeville—Fulton County Bd. of Education, Jere Wells, Supt., County Courthouse Bldg., Atlanta, ready for bids about Jan. 15 for \$50,000, 1-story and basement, brick 12-classroom and auditorium school; comp. roof, hardwood and tile floors, comp. roof; Hentz, Adler & Schutze, Archts., Candler Bldg., Atlanta. 11-15

Ga., Lakemont—Bd. of Education selected Edwards & Sayward as Archts. and Robt. B. Logan, Asso. Archt., both 101 Marietta Bldg., Atlanta, for brick school; comp. roof, hardwood and cement floors.

Ky., Owensboro—City votes Feb. 23 on \$200,000 bonds for building Long Row school, gymnasium, auditorium and workshop for Western colored high school, 4-room addition to Robert E. Lee School; Wm. B. Ittner, Archt., Bd. of Education Bldg., St. Louis. 10-4

La., Baton Rouge—Kappa Alpha Home Corp., Col. A. T. Prescott, Pres., Bd. of Gov-

ernors, erect 2-story fraternity house at Louisiana State University.

La., Baton Rouge—State Bd. of Education, T. H. Harris, Supt., receives bids Jan. 29 for two 2-story, rein. conc., brick, cast stone trim dormitories at State School for Deaf; \$180,000, slate and comp. roofs; Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans. 12-20

La., Denham Springs—Livingston Parish School Bd., E. S. Easterly, Supt., having plans prepared by Wm. R. Burk, Balter Bldg., New Orleans, for \$65,000, 2-story, rein. conc., brick and stone trim 16-classroom and auditorium high school; built-up comp. roof. 10-11

La., Franklinton—Washington Parish Bd. of Education, D. A. Stringeld, Supt., having plans prepared by Wm. T. Nolan, Canal Bk. Bldg., New Orleans, for \$75,000, 2-story, brick, stone trim high school.

La., New Orleans—Orleans Parish School Bd., City Hall Annex, erect school in Algiers and high school, Claiborne St. and Nashville Ave.

La., Reserve—St. John the Baptist Parish School Bd., J. O. Montegut, Supt., La Place, erect 2-story and basement, brick, stone trim high school; 21 classrooms and auditorium to seat 1500 people; election in February on \$150,000 bonds; Wm. R. Burk, Archt., Balter Bldg., New Orleans.

Miss., Jackson—Bd. of Education considering 10-room building for Lee School, repairs and enlargements to George and Barr schools, two 1-story, brick veneer, 10-room schools for primary grades; \$350,000; Messrs. C. H. Lindsley, Lamar Bldg.; E. J. Hull, Merchants Bank Bldg., and N. W. Overstreet, Miss. Fire Bldg., preparing preliminary plans. 1-3

Miss., Oak Ridge—Warren County Bd. of Education, Vicksburg, receives bids Jan. 19 for Agricultural High School; \$25,000; auditorium 50x100 ft. and two 71x36 ft. wings, steam heat; Wm. A. Stanton, Archt., 308 First National Bk. Bldg., Vicksburg. 1-3

Miss., Tupelo—City voted \$50,000 bonds for 2-story brick and stone trim addition to school; Dewey Patterson, Supt., Lee County Bd. of Education. 12-20

Mo., Kansas City—Kansas City Art Institute erect \$75,000 U. S. Epperson Memorial Hall, gift of Mrs. U. S. Epperson; auditorium to seat 400 people; Wight & Wight, Archts., First Natl. Bank Bldg.

N. C., Concord—Cabarrus County School Comms. plan \$25,000 bond issue.

N. C., Durham—Durham County Bd. of Education plans \$70,000 building program to include 8-room school in vicinity of Hillendale and Chambley districts; 2-room additions to Mangum township and Bragtown high schools, additional rooms to Rougemont and Hampton schools.

Okla., Blackwell—Bd. of Education, reported, has plans by Smith & Senter, Phil-tower Bldg., Tulsa, for \$500,000, 3-story and basement, rein. conc. and brick high school, Dewey St.

Okla., Tulsa—University of Tulsa, Dr. John D. Finlayson, Chancellor, erect \$200,000 building, gift of Robert M. McFarlin, San Antonio, Tex.

Tenn., Humboldt—Bd. of Education considering erecting gymnasium building.

Tenn., Jasper—Marion County plans vote March 12 on \$225,000 bonds for schools at Whitwell, Jasper and South Pittsburg.

Tenn., Somerville—Fayette County plans vote on \$250,000 bonds for high schools at Somerville and Moscow; Mrs. A. G. Rose, Supt. of Schools.

Tenn., Moscow—See Tenn., Somerville.

Tex., Beaumont—Bd. of Education reconstruct Junker, Magnolia, Millard and Pennsylvania Schools; brick and Indiana limestone; Livesay & Wiedemann, Archts., 607 San Jacinto Life Bldg.; bids in.

Tex., Alpine—Alpine Ind. School Dist. Trustees erect high school and remodel school on North Side and Maderia Ward School in South Alpine; Page Bros., Archts., Austin Natl. Bk. Bldg., Austin, and Brownsville; election held Jan. 5 on \$90,000 bonds. 18-20

Tex., Brady—School Bd., W. I. Brogden, Sec., receives bids Jan. 29 for \$135,000, 2-story, brick, rein. conc. high school, gymnasium and cafeteria; plans from Henry T. Phelps, Archts., Hicks Bldg.; W. E. Simpson Co., Engrs., Natl. Bk. of Commerce Bldg., both San Antonio. 11-8

Tex., Kermit—Kermit Ind. School Dist., G. C. Dawson, receives bids Jan. 15 for 3-story, 122x58 ft., brick, tile, struct. steel, cast stone school; separate bids for wiring and heating; marble wainscot, comp. tile, terrazzo and wood floors; David S. Castle Co., Archt., 791-A Alexander Bldg., Abilene.

Tex., Marshall—Marshall College, Dr. F. S. Groner, Pres., erect girls' dormitory to replace structure burned at loss \$50,000.

Tex., Sheldon—Trustees, Sheldon Common School Dist. No. 32 receive bids Jan. 21 at office B. N. Garrett, 1024 Electric Bldg., for \$20,000, 1-story school; plans from John McLelland, Archt., 601 West Bldg. 1-3

Tex., Sherman—Kidd Key College has low bid at \$67,775 from J. O. Everett Co., 603 Melba Bldg., Dallas, for 2-story and basement, 72x137 ft., brick, tile, rein. conc., struc. steel administration building; Clyde & Rolfe, Archts., 307 Commercial Bk. Bldg. 1-3

Stores

Ala., Birmingham—H. W. Catts, 3813 Clairmont Ave., soon let contract for 1-story, 50x80-ft. brick store; Jacob E. aSlie, Archt., Empire Bldg.

Ala., Birmingham—Chas. H. McCauley, Archt., 709 Jackson Bldg., soon let contract for \$15,000, 1-story, 60x100-ft. brick and stone store, Fourth Ave. and 117th St.

Ark., Fort Smith—Joseph Glick, 901 Greenwood St., erect 1-story brick store, N. 13th and B Sts.

Ark., Little Rock—Pfeifer Brothers, Leo Pfeifer, 6th and Main Sts., erect department store.

Ark., Little Rock—Mrs. G. H. Lyons, 1710 Center St., having plans prepared by Wittenberg & DeJoney, Home Insurance Bldg., for 2-story, 100x140 ft., brick and conc. store and office, Third St. and Broadway.

Ark., Morrilton—W. P. Strait erect 2-story, 50x140 ft., brick store and office on S. Moose St.; conc. and wood floors, comp. roof.

D. C., Washington—L. E. Breuinger & Sons, 24 Jackson Pl., N. W., have permit for \$14,000, 2-story dwelling, 7613 Morningside drive, N. W.; owners build; no sub-contracts.

Fla., Lakeland—A. Raymudo erect \$100,000, 4-story and basement, 60x122 ft., rein. conc. and brick store; built-up roof; plans by Engr. Dept. of S. H. Kress & Co., Lessees, 114 Fifth Ave., New York.

Ga., Atlanta—Singer Sewing Machine Co., W. H. Clough, Real Estate Dept., Singer Bldg., New York, soon ready for bids for 3-story and basement, rein. conc. and brick, stone trim store on Peachtree St. near Cain; built-up roof, conc., tile and terrazzo floors, steam heat; Hentz, Adler & Schutze, Archts., Candler Bldg. 11-1

Ga., Atlanta—Mrs. M. E. Gilfillan, 818 Ponce de Leon Ave., N. E., has low bid from Yost Construction Co., Candler Bldg., for 1-story and basement, 50x45 ft., brick store, Peachtree and 6th Sts., N. E.; Carey built-up roof, tile and cement floors; DeFord Smith, Archt., 104 Peachtree Bldg. 1-3

Ga., Atlanta—Hopkins & Campbell and J. C. Allen remodel 2-story and basement, 154x41 ft., brick building, 25-27 Alabama St.; hardwood floors; C. C. Whitaker, Engr., Bona Allen Bldg.

La., Bogalusa—D. Bienn, 2722 Robert St., New Orleans, plans erecting mercantile building, 5th and Columbia Sts.

La., Bogalusa—W. L. Smith erect 1-story brick combination meat market and grocery store on Columbia St.

La., Bogalusa—R. C. Breland plans grocery store, meat market and hotel on Columbia St.

La., Monroe—W. J. Sherrouse, 126 Jackson St., rebuild store on Trenton St. destroyed by fire.

La., Monroe—New South Drug Co., R. L. McHenry, Mgr., remodel building on Grand St. near DeSiard for arcade of 8 or 10 booths.

Miss., Biloxi—Harry Latter, New Orleans, Thos. J. Grayson, of Biloxi Insurance Agency, representative, soon let contract for 1-story, brick, fireproof store building on Howard Ave.; Carl Matthes, Archt.

Miss., Jackson—J. S. Love, 932 N. State St., let contract at \$10,236 to W. G. Wetmore for 1-story, 40x100 ft., rein. conc., brick and stone trim store on Capitol St.; comp. built-up roof; N. W. Overstreet, Archt., Mississippi Fire Insurance Bldg. 1-3

Mo., Joplin—Davis Mercantile Co., 1201 Sergeant St., erect 1 or 2 story, 60x150-ft. brick store, 12th St. and Sergeant Ave.; 8 to \$12,000.

Mo., Kansas City—Louis K. Liggett Co., 42nd St. and Madison Ave., New York, receives bids Jan. 15 for remodeling 4-story, 25x120-ft. building, 1120 Main St.; tile, terrazzo and wood floors; \$50,000; Walter Thomas Williams, Archt., 41 E. 42nd St., New York. See Want Section—Building Material and Equipment.

N. C., Charlotte—A. M. E. Zion Church has permit for \$40,000, 2-story brick store and dwelling, 443 E. Second St.; also for \$3200, 1-story brick filling station, Second and Caldwell Sts.

N. C., Forest City—T. R. Padgett plans furniture store and undertaking establishment.

N. C., High Point—G. E. Hutchens, 111 E. Washington St., erect 1½-story, 60x95 ft., 3-story building on N. Main St.

N. C., High Point—M. C. Rowland, 1419 Montlieu St., and J. L. White, Route 2, erect 2-story store and apartment on N. Main St.

Okla., Frederick—A. H. Krause erect 50x60 ft. rein. conc. and brick store on W. Dahlia Ave., for Frederick Produce Co.

Okla., Frederick—C. J. Hubbard soon start work on rebuilding store on Grand Ave. to be occupied by C. E. Stone chain dry goods store; 40 ft. extension, new roof.

Okla., Tulsa—Charles Mahaffey has permit for \$20,000 store, 310-12 E. 10th St.

Okla., Tulsa—J. C. Penney Co., Inc., 330 W. 34th St., has permit for \$55,200 store, 212-14 S. Main St.

Tenn., Knoxville—W. M. Fulton, 820 Temple Ave., plans several commercial buildings, W. Cumberland Ave.

Tex., Austin—C. M. Bartholomew, Cashier, Austin Natl. Bank, erect \$35,000, 1-story, 92x80 ft., brick store, W. 6th and Lavaca Sts.

Tex., Dallas—S. H. Kress & Co., 114 Fifth Ave., New York, rebuild 5-story structure, 1404 Elm St.

Tex., Fort Worth—Charles Glenck, 110 S. Jennings St., has permit for \$12,000 brick store, 110 S. Jennings St.

Tex., Houston—R. H. Fonville, 2102 Hardy St., plans to erect 6 stores in various sections of city.

Tex., New Braunfels—Harry Landa received bids Jan. 11 for \$40,000, 2-story and part basement, brick, conc., terra cotta trim store to be leased to Montgomery Ward Co., Fort Worth; built-up comp. roof; Page Bros., Archts., 348 Austin Natl. Bank Bldg., Austin.

Tex., Quitaque—Dellars Hooks started work on 40x25-ft. brick and tile building.

Tex., San Angelo—Baker-Hemphill Co., W. M. Hemphill, Pres., call for bids about Feb. 1 for \$200,000, 4-story and basement, W. Beauregard Ave. and S. Irving St.; Anton F. Korn, Archt., 816 Thomas Bldg., Dallas; B. M. Morgan, Asso. Archt., San Angelo Natl. Bk. 10-11

Tex., San Antonio—John C. Sullivan, Sullivan Bank Bldg., Commerce St., Atty. for owner, remodel 4-story theater for department store; steel, rein. conc., hollow tile, cast stone; Harvey L. Page, Archt., 206 Crescent St., Alamo Heights; Beretta-Stiles Co., Inc., Consltg. Engr., 1203 Natl. Bk. of Commerce Bldg.

Tex., San Antonio—Dr. P. I. Nixon, Medical Arts Bldg., has low bid at \$27,624 from J. E. Dickey for 1-story, 100x85 ft., brick, tile and drein. conc. store, San Pedro and Euclid Sts.; Adams & Adams, Archts., Real Estate Bldg.

Tex., San Marcos—C. T. and C. H. Bass have permit for repairs to building; \$10,000.

Tex., San Marcos—Jacob Schmidt has permit for rebuilding store; \$10,000.

Va., Charlottesville—B. F. Dickerson has permit for \$20,000, 2-story, brick store on Water St.

Va., Norfolk—Royster Investment Co., Y. S. Royster, Pres., 552 Mowbray Arch., plans remodeling 6-story building, Granby and Freemason Sts., for commercial purposes.

Va., Norfolk—A. F. Evans, Ch. of Construction, W. T. Grant Co., Inc., 455 Seventh St., New York, advises will not make alterations to Taylor Bldg. for another year. 1-3

W. Va., Charleston—Murad Farris remodel 3-story, 26x83-ft. building, Summers and Virginia Sts., for store.

W. Va., Clarksburg—Monongahela West Penn Public Service Co., Geo. M. Alexander, Pres., remodel Orpheum Theater for business building; 2 stories, 105x38 ft., steel and brick.

Theaters

Ga., Rome—John R. Graham, care National City Bank, received bids Jan. 12 for \$75,000, 1-story and balcony, 164x66 ft., brick and stucco, cast stone trim theater; seat 1500 people; to be leased to Lamb Amusement Co., O. C. Lamb, Pres.; M. A. Tucker, Archt.; Robt. S. Fiske Co., Cons. Engr., Healey Bldg., Atlanta. 12-20

Md., Baltimore—Fox Theaters Corp., William Fox, Pres., 850 Tenth Ave., New York, erect theater and office building.

N. C., Forest City—W. L. Horn plans theater building.

Warehouses

Fla., Orlando—Harry P. Leu, 100 N. Livingston St., has permit for \$30,000, 2-story,

fireproof steel frame and brick warehouse and office building.

Tenn., Knoxville—Tennessee Mill and Mine Supply Co., 444 State St., erect \$50,000, 2-story, conc. and steel addition to building for store room.

Tex., Caldwell—J. A. Gray soon let con-

tract locally for 1-story and basement, brick and rein. conc. warehouse; P. G. Silber & Co., Archts., Bedell Bldg., San Antonio.

Tex., San Antonio—International Harvester Co. of America, Chicago, J. W. Ryan, State Mgr., Bedell Bldg., San Antonio, plans building to house State headquarters and warehouses.

BUILDING CONTRACTS AWARDED

Bank and Office

Ga., Atlanta—Jacobson Plastering Corp., Candler Bldg., has contract for metal furring, metal lathing and plastering for \$750,000 Rhodes-Haverty Bldg.; Pringle & Smith, Archts., Norris Bldg.; Southern Ferro Concrete Co., Contr., 70 Ellis St., N. W. 11-29

Mis., Meridian—Queen City Realty Co., Box 325, let contract to E. J. Vaughn to remodel 4-story bldg.; \$30,000. 6-14

Mo., St. Louis—Waldheim Platt Co., 513 Olive St., remodel 8-story office building, 513 Olive St.; \$15,000; N. Abrahams, Archt.; N. Abrahams, Inc., Contr., both Equitable Bldg.

S. C., Charleston—South Atlantic Mortgage Co. let contract to M. L. Stephenson for addition to building; brick, terra cotta front, 2 stories and basement, 40x56 ft., conc. footings, wood and tile floors, tin roof, marble and tile work; J. D. Newcomer, Archt., 32 Broad St. 1-3

Tex., Galveston—International Tile Co., 1420 McKinney St., Houston, has tile, terrazzo and marble work contract for 11-story office bldg. for American National Insurance Co.; Andrew Fraser, Archt., Amer. Natl. Ins. Bldg., Galveston; L. E. Myers Co., Contr., Allen Bldg., Dallas. 11-29

Tex., Houston—International Tile Co., 1420 McKinney St., has contract for tile work on \$4,500,000 Gulf Bldg. for Jesse H. Jones Co.; Alfred C. Finn, Archt., Bkrs. Mortgage Bldg.; Kenneth Franzheim, 345 Madison Ave., and J. E. R. Carpenter, 589 Madison, both New York, Constl. Archts.; American Construction Co., Contr., Gulf Bldg., Houston. 9-27

Tex., Houston—Southern Loan & Investment Co., Bankers Mortgage Bldg., erect \$204,000 bank bldg., Travis St., as extension to Gulf Bldg. nearing completion; American Construction Co., Contr., Gulf Bldg.

Tex., San Antonio—A. H. Beck & Co., 1435 W. Laurel St., San Antonio, has excavation contract for \$2,000,000 bank and office bldg. for Alamo National Bank; Graham, Anderson, Probst & White, Archts., 80 E. Jackson Blvd., Chicago, Ill.; McKenzie Construction Co., Contr., Travis Bldg., San Antonio. 11-29

Tex., San Antonio—Martin Wright Electric Co., Navarro St., has elect. contract at \$3876 for \$200,000 Groos National Bank; plumbing, ice water system, heating and ventilating, A. H. Shafer, 829 N. St. Marys St., at \$12,834; Henry T. Phelps, Archt., Hicks Bldg.; Beretta-Stiles, Inc., Constl. Engrs.; Summer-Solitt Co., Contr., both Natl. Bk. of Commerce Bldg. 12-20

Va., Richmond—Central National Bank, W. H. Schwarzhild, Pres., let contract to Doyle & Russell, Grace-American Bldg., Richmond, for 21-story and basement bank and office building, Broad and Third Sts.; 62x145 ft., with 26-ft. L. fireproof, Indiana limestone front on Broad St.; banking room about 57x145 ft., 37 ft. high; 4000 safety deposit boxes and 16 customers' rooms in basement; special ventilating system in banking room; telautographs; high-speed elevators; arcade; 3 entrances to banking quarters; Ebersson & Ebersson, Inc., Archts., 200 W. 57th St., New York, and 212 E. Superior St., Chicago, Ill.; Carneal & Johnston, Asso. Archts., Electric Bldg., Richmond. 12-27

Churches

D. C., Washington—Following sub-contracts let on \$300,000 Universalist National Memorial Church: Waterproofing, Ply-Rite Contracting Co., Hill Bldg.; brick work and masonry, W. J. Hammett Co., 1117 15th St., N. W.; stone work, R. B. Phelps, Ninth and Douglas Sts., N. E.; iron work, Union Ironworks Co., 320 12th St., N. W.; painting, W. F. Andrews Sons, 1804 14th St., N. W.; plumbing and heating, Isadore Freund, 64 O St., N. W.; elect. work, Cunningham Electric Co., Bond Bldg.; marble and tile, Standard Art Marble & Tile Co., 334 C St., N. W.; linoleum, Baker Cork & Tile Co., Inc., 1110 F St., N. W.; plastering, A. Bussard & Co., 2129 G St., N. W., all Washington; cast stone, Simbroco Stone Co., 207 Baker St., West Roxbury, Mass.; steel work, Dietrich Bros., 220 Pleasant St., Baltimore, Md.; roof slab, Forete Manufacturing Co., 346 Riverside Ave., Newark, N. J.; steel windows, Inter-

national Casement Co., Jamestown, N. Y.; metal bucks and trim, Betz Bros., Inc., Jersey City, N. J.; kalamein doors, Architectural Metal Products Corp., Covington, Ky.; leaded glass, Beaumont & Aughtie, 727 Atlantic Ave., Boston, Mass.; Allen & Collins, Archts., 75 Newbury St., Boston; Boyle-Robertson, Inc., Contr., Evans Bldg., Washington. 11-29

Fla., Coconut Grove, Miami—Christ Church erect \$10,000 bldg., Hibiscus and William Sts.; conc. block, 1 story, 47x92 ft.; owner builds.

Mo., St. Louis—St. Michael and All Angels P. E. Church let contract to Gamble Construction Co., 620 Chestnut St., to enlarge church and sanctuary, erect memorial tower and parish house; latter contain auditorium, gymnasium, 22 classrooms; \$300,000; Klipstein & Rathmann, Archts., 318 N. Eighth St. 11-22

Tex., San Antonio—Highland Park Lutheran Church let contract at \$17,998 to G. W. Mitchell Bldrs. Exch. Bldg., for bldg., Hammond and New Braunfels Ave.; brick and conc. 1 story and basement; Seutter & Simons, Archts., Bldrs. Exch. Bldg. 12-20

City and County

Ark., McCrory—Woodruff County Bd. of Commrs. let contract to Grover McCrory, McCrory, and Wm. Roth, Searcy, for \$75,000 courthouse and jail; brick, stone trim, 2 stories and basement, wood floors, comp. roof; J. Ogletree, Archt., Stuttgart. 12-20

Ga., Atlanta—Farrell Heating & Plumbing Co., 248 Ivy St., N. E., has heating contract for \$1,000,000 city hall; steel house tank and steel smoke connections, J. J. Finnigan Co., Inc., 706 Marietta St.; G. Lloyd Preacher & Co., Inc., Archts.-Engrs., Wynne-Claughton Bldg.; National Construction Co., Contr., Norris Bldg. 8-16

Ga., Macon—City erect \$50,000 baseball grandstand, Central City Park; conc. and struct. steel, 40x278 ft., conc. floors and foundation, 10-year built-up roof; equipment, etc., \$2500; Curran R. Ellis, Archt., 201½ Cotton Ave., Macon; W. C. Spiker & Co., Engrs., Forsyth Bldg., Atlanta; Blount Construction Co., Contr., 501 Macon Natl. Bank Bldg., Macon. See Want Section—Building Material and Equipment.

Md., Baltimore—John C. Knipp & Sons, 343 N. Charles St., have contract at \$11,100 for furniture for \$1,000,000 municipal art museum.

Miss., Hattiesburg—City Comsn. let contract to Massengale & McIntosh, Citizens Bk., Bldg., for 3 fire stations; comp. roofs, conc. floors; E. C. Heaton & Sons, Archts., 201½ W. Pine St. 1-3

Tex., Alvin—City Council, J. Dobert, City Sec., let contract to Freeman & Furgeson, Goose Creek, for city hall and fire station; Curtis & Thomas, Archts., Post-Dispatch Bldg., Houston. 12-6

Tex., Baird—Callahan County, W. C. White, County Judge, let contract for courthouse to Suggs & Dunlap, Abilene, at \$160,565; plumbing and heating, Elliott Engineering Co., Ray Bldg., El Paso, at \$12,487; wiring, Strawberry Electric Co., Abilene, \$3325; rein. conc., 4 stories, 80x130 ft., cement, terrazzo and linoleum floors, rein. conc. foundation, tar and gravel roof; furnishings, equipment, etc., \$20,000; Voelcker & Dixon, Archts., Wichita Falls. 12-6

Tex., Houston—Gulf Coast Tile and Marble Co., 1221 W. Webster St., has tile and terrazzo work contract for \$1,000,000 Farmers Market nearing completion; plans by J. C. McVea, City Engr.; Tellepsen Construction Co., Contr., 3900 Clay St. 9-13

Dwellings

Ala., Birmingham—Frank Lynch, 4025 S. Ninth Court, erect frame residence, Pinecrest; 2 stories, comp. roof, hot air heat; Sam C. Malloy, Archt.; Marbury Mushat Lumber Co., Contr., Comer Bldg.

Ala., Birmingham—Jemison & Co., 221 N. 21st St., let contract to L. E. Ford, Mt. Brooke Village, for \$20,000 dwelling, Redmont Park; brick, 2 stories, 54x40 ft.; Chas. H. McCauley, Archt., Jackson Bldg. 12-20

Ala., Huntsville—Lincoln Mills Corp. erecting about 500 operatives' dwellings.

D. C., Washington—W. C. & A. N. Miller, 1119 17th St., N. W., have permit for \$13,000 dwelling and garage, 2913 Glover Driveway; brick, 2 stories; owners build.

Fla., Coral Gables, Miami—C. A. McLean erect \$17,000 residence, 1021 Andalusia Ave.; conc. block, 2 stories; Wilbert Harborn, Contr.

Fla., Jacksonville—Geo. A. Follin, Mgr., Bradstreet Co., Atlantic Natl. Bank Bldg., erecting \$18,000 residence, Montgomery Place near St. Johns Ave.; brick veneer, 2 stories, garage; Henry Taylor & Son, Contrs., 2057 Lackawanna St.

Fla., Miami Beach—J. R. Francis, 4621 Collins Ave., erect \$12,000 residence addition; hollow tile and stucco, 40x20 ft.; John B. Orr, Inc., Contr., 147 N. E. Sixth St.

Fla., Tarpon Springs—Saml. G. Clayton erect \$25,000 stone residence; 12 rooms; Frank Helmle, Archt., 130 W. 42d St., New York; John Klepak, Contr.

Ga., Atlanta—K. A. Leineweber, 765 Veda-do Way, erect \$11,000 residence, 1340 North Ave., N. E.; brick veneer, 2 stories, 12 rooms, 2 baths, hardwood floors, comp. roof, steam heat; owner builds.

Ga., Atlanta—Mrs. J. C. Dickens erecting 3 duplexes, Silvia Place; Maddox & Tisinger, Contrs., Candler Bldg.

Ga., Atlanta—Carolyn E. Walter, 548 Clairmont Ave., Decatur, erect 2 brick veneer dwellings, 2027-31 McLendon Ave., N. E.; 1 story, 7 rooms and bath, hardwood floors, comp. roof, hot air heat; \$13,000; owner builds.

Ga., Atlanta—F. P. & Geo. J. Morris, 76 N. Pryor St., N. E., erect 2 brick veneer dwellings, 1709-29 Stokes Ave., S. W.; 1 story and basement, hardwood and tile floors, comp. shingle roofs, hot air heat; \$10,000; day labor.

Ga., Atlanta—Chas. M. Yeats, 193 Hurt St., Apt. 3, erect 2 brick veneer dwellings, 1820-24 McLendon Ave., N. E.; 1 story, 6 rooms and bath, hardwood and tile floors, comp. roofs; \$11,000; owner builds.

Ga., Atlanta—J. R. Jordan & Son, 665 Morningside Drive, N. E., erect 2 brick veneer dwellings, 671 E. Morningside; hardwood floors, 8 rooms, 2 baths, 2 stories, slate roofs, steam heat; \$10,000; owner builds.

Ga., Atlanta—Mrs. Jos. Jansen, 1792 Wade Ave., erect \$12,000 residence, 624 Pelham Rd., N. E.; brick veneer, 2 stories and basement, 9 rooms, 2 baths, hardwood and tile floors, steam heat; \$12,000; Thos. K. Windham, Contr., Wynne-Claughton Bldg.

Ga., Atlanta—G. R. Bond, Contr., Fourth Natl. Bk. Bldg., erect \$18,000 dwelling, N. Decatur Rd.; brick, 2 stories and basement, comp. or slate roof, hardwood and tile floors, steam heat; excavating.

La., New Orleans—A. V. Herman, Contr., First St. and Orleans Pkwy., erect duplex, Rosemary St. near Homedale St.

La., New Orleans—Chas. Montz, Contr., 3600 Gentilly Blvd., erect double dwelling, Law St. near Touro St.

La., New Orleans—Wm. K. DePass, 1912 Palmer Ave., let contract at \$22,980 to L. Delarosa, 606 Poydras St., for residence and garage, Metairie Club grounds; stucco, cast stone trim, 2 stories, 56x64 ft.; Favrot & Livaudais, Ltd., Archts., Hibernia Bank Bldg.

La., New Orleans—Geo. Allain, Contr., 725 Upperville St., erect double raised residence, Florida Ave. near N. Lopez St.

La., New Orleans—Geo. Kral, Contr., 4225 S. Tonti St., erect 2 double dwellings, Nashville and Tchoupitoulas Sts.

La., New Orleans—W. W. Desemar, Contr., 2715 Holly St., erect single raised residence, Versailles Blvd. and Fontainebleau Drive.

Md., Baltimore—James Keelty, 3529 Edmondson Ave., erect 11 brick dwellings, 700 block Woodington Ave.; 2 stories; \$27,000; owner builds.

Md., Baltimore—Geo. W. Schoenhals, Munsey Bldg., erect 11 dwellings, 300 block W. 30th St.; 2 stories, brick; \$56,000; owner builds.

Md., Baltimore—John L. Tregellas, Inc., 10 E. Fayette St., completed foundations for 3 semi-bungalows, Louisa Ave.; frame, 1½ stories, 26x30 ft., pine and oak floors, asphalt shingle roofs; \$3500 each; John Brower, Archt., Dundalk; owner builds. (Architect lately incorrectly noted.) 1-3

Mo., Kirkwood, St. Louis—Anna Tepe, Peake and Kirkwood Roads, erect \$10,000 residence; brick and tile, 2 stories, 24x25 ft., slate-coated roof, hot air heat; A. Meyer, Archt.-Contr.

Mo., St. Louis—Thermo Steel Construction Co., 7720 Forsyth Blvd., erect \$20,000 fireproof dwelling, Algonquinwood; steel and stone, 2 stories and basement, 48x25 ft., hardwood floors, tile bath, slate or tile roof, hot water heat; work by sub-contract.

Mo., St. Louis—A. I. Moellenbeck, 6312-A Victoria St., erect 2 dwellings, Altadena and Bel-Nor sub-divisions; brick, 2 stories and basement, 30x33 ft. and 28x30 ft., hardwood floors, slate roofs, tile baths, hot water and other heating; Edw. B. Kelley, Connor Bldg., Archt. for former; Schulte & Tarling, Grand-St. Louis Bldg., Archts. for latter; owner builds.

Mo., St. Louis—Miss G. Krueger, care M. L. Oakes, Contr., 6454 Fernod Ave., erect \$12,000 brick residence, 6925 Berthold Ave.; 2 stories and basement, 36x39 ft., hardwood floors, tile bath, conc. foundation, comp. roof, hot water heat.

Mo., St. Louis—C. Iovaldi, 5300 Pattison Ave., erect \$10,000 brick duplex; 1 story and basement, 64x30 ft., hardwood floors, tile bath, gravel roof, hot air or hot water heat; Edw. Specia, Contr., 5243 Botanical Ave.

Mo., St. Louis—L. Sawdy, 3820 Meramec St., erect \$10,000 brick residence, 4114 Toenges St.; 2 stories and basement, 27x35 ft., tile bath, hardwood floors, slate roof, hot air heat; Gus W. Sturmfels, Contr., 4529 Tower Grove Place.

Mo., St. Louis—Bush-Burns Realty Co. erect 3 dwellings, Electra Park subdivision; \$7000 each.

Mo., St. Louis—J. Miller, 5511 Finkman St., erect 5 brick dwellings, 5500 block Rhodes St.; 1 story, 26x42 ft., comp. roofs, hot air heat; \$22,500; plans and constr. by owner.

Mo., St. Louis—Mayer Building Co. erect 8 brick dwellings, 6400 block Hoffman St.; 1 story, 25x32 ft., comp. roofs, hot air heat; \$24,000; J. Mayer, Archt., both 4608 Gravois St.; owner builds.

Mo., St. Louis—John C. Greulich Realty and Investment Co., 3111 N. Grand Ave., erect 3 dwellings, Ingleside; \$8500 each.

Mo., St. Louis—Bixby-Smith, Inc., 1001 Locust St., erect 3 dwellings, Osage Hills; \$15,000 each.

Mo., Webster Groves, St. Louis—Harold K. Keller, care Franklin-American Trust Co., Seventh and Locust Sts., erect \$15,000 residence, 587 Westborough Place; 2 stories and basement, 36x25 ft., hardwood floors, tile bath, slate roof, hot water heat; Jones Bros. Construction Co., Contr., 5549 Wells Ave.

Mo., St. Louis—Wm. Greenwald, Gravois Rd., Sappington, has contract for \$12,000 dwelling, Denny Rd.; brick, 1½ stories and basement, 25x40 ft., hardwood floors, tile bath, comp. shingle roof, hot water heat; Gill & Jackson, Archts., Buder Bldg.; work started.

Mo., St. Louis—Mr. Woestman, care Schulte & Tarling, Archts., Grand-St. Louis Bldg., let contract to C. Q. Welsh Construction Co., DeMenil Bldg., for \$20,000 residence; 2 stories and basement, 45x30 ft., hardwood floors, tile bath, hot water heat.

Mo., St. Louis—Dr. J. F. Gallagher, 5103 Vernon Ave., let contract to R. Vickery, 1031 Big Bend Blvd., for \$10,000 brick residence, Moorland Park; 2 stories and basement, 40x20 ft., hardwood floors, tile bath, slate or tile roof, hot water heat; F. G. Avis, Archt., 1021 Big Bend.

N. C., Raleigh—P. R. White, 1702 Dare St., erect \$16,000 brick veneer residence, 2205 Fairview St.; owner builds.

N. C., Raleigh—C. V. York Co., Odd Fellows Bldg., erect \$14,000 brick veneer residence, Vance St.; owner builds.

Okla., Muskogee—Monroe Wright, Contr., erect 6 additional dwellings, Chestnut St.

Okla., Oklahoma City—G. A. Nichols, Inc., 115 N. Harvey St., erect 6 dwellings, Nichols Hills addition; \$175,000; owner builds.

S. C., Columbia—Dr. Robt. E. Seibel, 1512 Marion St., erect \$40,000 residence; brick and Indiana limestone, conc. footings, 2 stories and basement, hardwood and tile floors, slate or tile roof, steam heat; J. Carroll Johnson, Archt., Sylvan Bldg.; day labor.

Tenn., Memphis—J. D. Scott, 1463 S. Willett St., erect \$12,500 duplex, 1500 Peabody Ave.; brick veneer, 2 stories and basement, 37x40 ft., oak floors, tile bath, comp. shingle roof, steam heat; owner builds.

Tenn., Memphis—Geo. H. Boyle erecting wide siding duplex, 364 Tillman Ave.; 1 story, pine floors, comp. roof; owner builds.

Tenn., Nashville—Hugh F. Smith, Jr., 106 Kenner Ave., let contract to H. W. Carothers for stucco, stone and conc. residence; 1 story and basement, 34x53 ft., oak and conc. floors, asphalt built-up and tile roof; John H. Parmelee, Archt., American Tr. Bldg.

Tex., Baltimore—Robinson & Slagle, Inc., American Bldg., erect 4 brick dwellings and garages, 301-03 Tuscany Road, and 200-2 Ridgemed Road; 2½ stories, slate and Carey roofs, hot water heat; \$25,000; John Ahlers, Archt.; owner builds.

Tex., Beaumont—T. F. Rothwell, Vice-Pres., Yount-Lee Oil Co., let contract for \$250,000 residence, Caldwell Addition, to Russell Brown Co., 3104 Main St., Houston; buff brick, Bedford limestone trim, 3 stories, pillars in front, cedar lined closets, elect. elevator, refrigerating and ventilating system, Bedford limestone fireplaces, 8 baths; terraced tile steps; foundation; 68x42-ft. ballroom with stage on third floor; plans by Contr.; Robt. D. Harrell, Interior Decorator, Beaumont.

Tex., Brady—Graham Bros. erect 5 frame dwellings; Roy V. Swartout, Archt.; H. H. Richards, Contr.

Tex., Brady—Dr. Wm. C. Jones let contract for \$18,000 residence to Wright, Jordan & Woodward; brick and tile, English type, 1 story, 7 rooms; Roy V. Swartout, Archt.

Tex., El Paso—Harry L. Hussmann, 4209 Pershing Dr., plans about 100 dwellings during 1929; \$600,000; contract let for first 3 to J. W. Chamness, 3701 La Suz; cost \$6000 each; Spanish type, stucco, brick and tile; Guy L. Frazier, Archt.-Constr. Supvr.

Tex., Houston—J. D. McRaven, care Hercules Printing Co., started work on \$22,000 residence, Braeswood; French Colonial type, brick veneer, 2 stories, 9 rooms; Carl A. Mulvey, Archt., Second Natl. Bk. Bldg.; landscaping by Herbert Skogland, Hermann Bldg.

Tex., Houston—W. H. Holland, Pres., Fidelity Bond & Mortgage Co., Post-Dispatch Bldg., let contract to C. J. Frankel, Electric Bldg., for \$20,000 residence, Pine Valley Drive, River Oaks; brick veneer, 2 stories; Lamar Q. Cato, Archt.; work started.

Tex., Houston—T. R. Jackson erect 2 brick veneer dwellings, 1812-14 Stanford St.; 2 stories, 10 rooms; \$16,000; H. F. Harrington, 1132 Brayland St., Contr.

Tex., Houston—H. B. Jopling erect 2 duplexes, 2900 block Truxillo Ave.; brick, 2 stories; \$10,000; Carl Jaeger, Contr.

Tex., Houston—Mrs. Jessie E. Holley erecting \$10,000 duplex, 1914-16 Arbor St.; brick veneer, 2 stories, 10 rooms.

Tex., Houston—H. Stitzer erecting 2 dwellings, 2800 block Barbee St.; brick veneer, 7 rooms; \$10,000.

Tex., Houston—C. O. Jones erecting 2 duplexes, 1400 block Sharp St.; brick veneer, 2 stories, 8 rooms; \$10,000.

Tex., Houston—C. H. Clark let contract to E. H. Clark for 2 duplexes, 1919-21 W. Dallas St.; brick veneer, 10 rooms; \$16,000.

Tex., McQueeney—J. K. Beretta, Natl. Bk. of Commerce Bldg., San Antonio, let contract to Henry Weiss, Seguin, for 1-story residence, Lake Abbott; hollow tile and stucco, about 40x55 ft.; Marvin Eickenrodt & Bartlett Cocke, Archts., Maverick Bldg., San Antonio.

Tex., Quitaque—L. E. Graham erect duplex; 32x36 ft., 2 baths; W. M. Draper, Contr.

Tex., San Antonio—A. K. Leonard, 709 S. Pine St., erect 30 five-room dwellings, Hays St. and Gevers Ave.; T. E. Barnes Lumber Co., Contr., 901 Victoria St.

Tex., Silverton—John Burson, Pres., First National Bank, erecting \$20,000 face brick residence.

Government and State

D. C., Washington—Following sub-contracts let on \$540,000 building as memorial to women of World War, exterior of which is nearing completion: Brick work, R. E. Miller Co., Invest. Bldg.; kalamein doors, E. H. Friderich Co., Bond Bldg.; excavation, Bright & Shepherd, 1415 K St.; comp. floors, D. Kennedy, Bond Bldg.; wood floors, H. E. Eckhardt, 1107 Buchanan St.; glazing, Pittsburgh Plate Glass Co., Fourth and Channing Sts., N. E.; hardware, Rudolph & West Co., 1332 New York Ave.; millwork, Washington Woodworking Co., 200 Thirteenth St.; orna. iron, Washington Stair and Iron Co., 2014 Fifth St., N. E.; painting, W. A. Thomas, 1746 U St.; photographs, C. O. Buckingham, 13th and H Sts.; plastering, Murray Bros., Dist. Natl. Bank Bldg.; rein. steel, Kalman Steel Co., Barr Bldg.; struct. steel, Dietrich Bros., Natl. Met. Bank Bldg.; tile and terrazzo, Standard Art Tile Co., 334 C St.; waterproofing, Ironclad Roofing Co., Ninth and Everts Sts., N. E.; sheet metal, P. F. Brandstedt, 1004 Wisconsin Ave.; elect. work, H. Alexander, Inc., Architects Bldg.; plumbing, heating and ventilating, Standard Engineering Co., 2129 I St., all Washington; granite, J. D. Sargent Co., Mount Airy, N. C.; interior and exterior marble, Vermont Marble Co., Proctor, Vt.; models, Newman & Evan, New York; orna. bronze, Ellison Bronze Co., Jamestown, N. Y.; setting stone and steel, D. A. Daly, 5423 Merion Ave., Philadelphia, Pa.; tile roofing, Jas. S. Barr, Takoma Park, Md.; Trowbridge & Livingston, Archts., 527 Fifth Ave., New York;

Chas. H. Tompkins Co., Contrs., 1608 K St., N. W., Washington.

Fla., Green Cove Springs—Fredk. H. Lewis erect building to be leased to Government for post office; brick, plate glass front, 62x32 ft.

Va., Fort Myer—Constructing Quartermaster let contract at \$18,751 to Lee & Turner, Washington, D. C., for recreation building, Fort Myer.

Hospitals, Sanitariums, Etc.

Mo., Carthage—Sterling Hotel Supply Co. has kitchen and utility room equipment contract for \$100,000 McCune-Brooks Hospital; sterilizers, American Sterilizer Co., Erie, Pa.; Hoener, Baum & Froese, Archts., Engra, Grand Blvd. and Laclede St., St. Louis; Busboom Bros. Construction Co., Contr., Carthage.

Hotels and Apartments

Ga., Atlanta—Philip Friedman, 392 Capitol Ave., S. E., erect \$60,000, brick, 32-apartment, 673-79 Bonaventure St., N. E.; tar and gravel roof, tile baths, hardwood floors, steam heat; owner builds.

Ga., Atlanta—Jacobson Plastering Corp., 1128 Candler Bldg., has contract for metal furring, metal lathing and plastering in connection with remodeling Piedmont Hotel; lower portion of building exterior of terra cotta pilasters with marble base, lower main lobby to level of streets, marble steps from lobby to mezzanine, marble finish in lobby, guest rooms increased to 401 each with private bath, provide arcade and store entrances; Southern Ferro-Concrete Co., Gen. Contr., 70 Ellis St., N. E.; Pringle & Smith, Archts., Norris Bldg.

La., New Orleans—Leo Gaillardanne, 2110 Barracks St., has permit for \$40,000, 3-story, 50x113 ft., hollow tile apartment on Constantinople between Pitt and Dryden Sts.; comp. roof; Anthony Bissant, Contr., 2421 Palmer Ave.; A. J. Nelson, Archt., 608 Common St.

Md., Baltimore—Greenway Apartment Co. (J. I. Goldstein, Pres., Greenway Apartments, Charles and 24th Sts.), in which Gillet Realty Corp., Keyser Bldg., is interested, let contract to Consolidated Engineering Co., 20 E. Franklin St., and soon start work on \$400,000, 4-story, brick and stone, 32-apartment, Park Heights Ave. and Shelburne Road, to be known as Ingram Hall; Frederic A. Fletcher, Archt., 13 W. Franklin St.

Md., Rockville—Rufus E. Miller, Contr., reported, erect 6-story, brick and steel, fireproof hotel and apartment.

Mo., Clayton, St. Louis—Yakitz-Bridell Realty and Construction Co. erect 70-apartment in Clayton district.

Mo., St. Louis—Kingshighway Hotel Co. remodel 6-story hotel; \$10,000; Wimmer Contracting Co., Contr., 014 Victoria Bldg.; Preston J. Bradshaw, Archt., 715 Locust St.

Mo., St. Louis—Keithly Construction Co., 2301 S. Kingshighway Blvd., soon start work on \$40,000, 2-story and basement, 81x124 ft., brick, 16-apartment, 23rd and Mullanphy Sts.; stone foundation, comp. roof, terra cotta trim, oak floors, tile baths, hot air heat; O. J. Popp, Archt., Arcade Bldg.; owner builds.

Mo., St. Louis—G. Herman erect two 2-story, 34x45 ft., brick tenements, 3951-59 Chippewa St.; \$18,000; tar and gravel roofs, hot air heat; Liebowitz Realty Construction Co., Archt.-Bldr., both 4955 Delmar Blvd.

Mo., St. Louis—May Building & Investment Co., 808 Chestnut St., erect two 2-story, 46x39-ft. brick tenements, 4617 S. Broadway and 4616 Oregon St.; \$16,000, comp. roofs, hot air heat; O. J. Popp, Archt., 800 Olive St.; owner builds.

Mo., St. Louis—F. Yawitz, 2333 Pine St., has permit to alter 5-story hotel, 1420-31 Pine St.; \$20,000; E. E. Christopher, Archt., Louderman Bldg.; owner, Bldr.

N. C., Charlotte—Frank Willetts, 114 E. 32nd St., New York (Home Real Estate and Guaranty Co., 140 Brevard St., Charlotte, Agents), erect \$100,000, 4-story and basement, fireproof 30-cooperative apartment; Norman architecture, 3 elevators; Lockwood Greene Engineers, Inc., Engrs.; owner builds.

Okla., Tulsa—Freeman-Springer Construction Co. has permit for \$20,000 apartment, 1315-17 E. 10th St.

Tenn., Memphis—R. G. Herrick, care L. L. Diehl, Contr., 1663 Forrest St., started work on \$15,000, 2-story and basement, 4-apartment, Tutwiler Ave.; comp. shingle roof, oak floors, hot water heat; Estes W. Mann, Archt., Cotton Exchange Bldg.

Tex., Dallas—Morten Construction Co., Chas. A. Mangold, V.-P., started work on \$70,000, 3-story, fireproof hotel, 1018 Main St.; foundation to carry 5 extra stories; Eckert-Burton Construction Co., Contr.; W. Scott Dunne, Archt., Melba Bldg.

Miscellaneous

Fla., Miami Beach—Miss T. Kelly erect \$10,000, 2-story, 30x30 ft. guest house, 47th St. and Michigan Ave.; John C. Gaffney, Contr.; A. Lewis, Archt.

Fla., Miami Beach—S. J. Boyce remodel and repa in Deauville Casino Bldg. for Deauville Casino Co.; \$15,000.

Ga., Atlanta—Dahl Florist Co., 72 N. Broad St., started excavation for \$50,000, 2-story brick and frame building on Ponce de Leon Ave., N. E., near Juniper St.; Joseph Shaw, Contr., Georgia Savings Bk. Bldg.; Cyril B. Smith, Archt., Bona Allen Bldg.

La., New Orleans—Following additional sub-contracts awarded Young Men's Gymnastic Club building, N. Rampart and Bienville Sts., for which R. P. Farnsworth & Co., Maritime Bldg., have general contract at \$239,100; Groesbeck Co., 1513 Callopie St.; millwork, Phoenix Sash Factory, Inc., 2728 N. Derbigny St.; painting, Gus Peterson, 730 Valence St.; Diboll & Owen, Archts., Canal Bk. Bldg. 1-3

La., New Orleans—Martin Behrman Memorial Assn., L. di Benedetto, Sec., Howard Annex Bldg., let contract at \$38,950 to Thos. H. Brockman, Canal Bk. Bldg., for Behrman Memorial Gymnasium in Algiers. 12-20

Miss., Greenwood—Greenwood Country Club let contract at \$11,000 to M. E. May for rebuilding locker rooms and bathhouses recently destroyed by fire; R. J. Moor, Archt. 11-1

Mo., Sedalia—State Fair Assn., W. E. Leach, Pres., St. Louis, let contract to Dean & Hancock, Citizens Natl. Bk. Bldg., for horse barn and Salisbury Bros. for speed barn and home economics and fine arts building; \$40,000; Victor J. De Foe, Archt., Huntsinger Bldg., Kansas City. 1-3

Mo., St. Louis—Forum Lunch Co., 1220 Grand Ave., Kansas City, remodel bank, 307 N. Seventh St., for restaurant; 1-story and basement, new store front, kitchen equipment, refrigeration, comp. floors, marble, tile and vitrolite work, lockers, plumbing, electric work, steam heat; Wimmer Contracting Co., Contr., 916 Victoria Bldg., St. Louis; G. B. Franklin, Archt., 1220 Grand Ave., Kansas City.

Schools

La., Independence—Tangipahoa Parish School Bd., Amite, let contract to Dominick Anzalone for \$125,000, 2-story, rein. conc., brick and stone trim high school; built-up comp. roof; Robt. H. Goodman, Archt., Baton Rouge Natl. Bk. Bldg., Baton Rouge. 12-13

Tex., Beaumont—Chenier Business College, A. B. Chenier, Pres., remodel Hargrove Bldg., for business college; work started.

Tex., Houston—Following sub-contracts awarded on 20-classroom addition to San Jacinto High School for which West & Jen-

sen, Second Natl. Bank Bldg., have general contract at \$182,450; Rein. steel, Peden Iron and Steel Co., 700 N. San Jacinto St.; struct. steel, Orange Car and Steel Co., Electric Bldg.; conc. roof, Federal Cement Tile Co., Chicago; R. B. Everett & Co., 3118 Harrisburg Blvd., local representative; Hedrick & Gottlieb, Archts., Post-Dispatch Bldg. 1-3

Tex., Nome—Nome Ind. School Dist. Trustees let contract at \$11,470 to W. H. Gamble for 3-classroom addition to school; Livesay & Weldemann, Archts., San Jacinto Bk. Bldg., Beaumont. 1-3

Stores

Ala., Gadsden—International Harvester Co. of America, Chicago, Ill., broke ground for 50-ft. addition to store on Fourth St.

Ark., Little Rock—Louis Hart, 403 Ferry St., soon start work on 1-story, 50x125-ft. brick veneer store, 14th St. and Barber Ave.

Fla., Green Cove Springs—Frederick H. Lewis, Contr., plans row of store buildings on Palmetto St.

Fla., Jacksonville—Joseph Bentley has permit for three 2-story brick stores and flats, 3108-10-12 Main St., for Mrs. W. S. Hooten.

Ga., Gainesville—Judge A. C. Wheeler alter and erect additions to old Hunt House and adjacent store on N. Main St.; 1 and 2 stories and basement, brick, hardwood, cement and tile floors, new heating plant, electric work; day labor under supervision John A. Pierce; Edwards & Sayward, Archts.; Robt. B. Logan, Asso. Archt., both Marietta Bldg., Atlanta.

Ga., Savannah—Mrs. Adelina Graham erect \$15,000 brick store on Bull St.; comp. roof; owner builds.

La., Lake Charles—United Cigar Stores Co. of America, 44 W. 18th St., New York, has permit for remodeling part of old home of Calcasieu Natl. Bank Bldg.; lower floor of building to street level, replace brick walls on both sides of corner frontage with glass show windows; \$15,000; contract let.

Md., Baltimore—Maryland Steel Products Co., Standard Oil Bldg., has contract for struc. steel for 3-story addition to unit at 7-9 N. Charles St. for The Hub, Moses H. Goodman, Gen. Mgr.; also install 3 elevators, relocate stairway in rear of 9 N. Charles St., enlarge and connect tunnel in basement; Consolidated Engineering Co., Gen. Contr., 20 E. Franklin St.; Smith & May, Archts., Calvert Bldg. 12-13

Mo., St. Louis—Arsenal Watson Co., 4540 Gravois Ave., reported, has contract for \$750,000, 10-story and basement, 81x140 ft., rein. conc., brick, terra cotta trim store and loft building, Morgan and 16th Sts.; S. B. Goldman, Archt., 3820 Washington Ave.

Okla., Frederick—J. T. Dotson soon start work on two 25x100 ft. stores on E. Grand Ave.

Okla., Wewoka—I. J. Banta let contract at \$49,996 to Ingalls & Roberts for 2-story brick store; The Butler Co., Archt., Herskowitz Bldg., Oklahoma City. 1-3

Tenn., Chattanooga—Chattanooga Properties Co., Rogers Caldwell and associates, started work on \$100,000, 2-story and basement, rein. conc. and brick, terra cotta trim store, Market and 9th Sts.; comp. roof, steam heat; Montgomery Ward & Co., Leases; Mark J. Wilson Co., Contr., Power Bldg., Chattanooga; Marr & Holman, Archts., Stahlman Bldg., Nashville. 10-11

Tex., Galveston—W. A. Velten, Contr., Brownsville, start work remodeling 3-story building, 22nd and Postoffice Sts., to be occupied by McCrory Stores, Inc., 1107 Broadway, New York; \$50,000. 9-6

Tex., Brownsville—W. A. Velten has contract at \$21,384 for store and office for Brown White, San Benito; W. D. Van Siden, Archt. 11-1

Tex., Port Arthur—Port Arthur Plumbing Co. let contract to H. W. Baird, 547 Proctor St., for \$10,000, 1-story brick building, 600 block Fifth St.

Tex., San Antonio—Kaufman Dry Goods Co., 102 S. Flores St., let contract to E. W. Frischmuth, 101 Moon St., for 1-story rear addition and remodeling fireproof building; Harvey P. Smith, Archt.; Beretta-Stiles Co., Inc., Consigt. Engr., both Natl. Bk. of Commerce Bldg. 1-3

Tex., San Antonio—H. O. Skinner, 429 W. Mistletoe St., and Dr. John W. Kenney, 1200 Main Ave., erect 1 and 2-story, 44x165 ft., brick and rein. conc. building, Alamo Plaza, for Fox Company; excavation begun; Walsh & Burney, Inc., Contr., 928 N. Flores St.; Albaugh & Steinbomer, Archts., Real Estate Bldg. 1-20

Tex., Temple—Longley-Sherrott Corp., N. G. Charlton, started work on \$40,000, 2-story, 55x133 ft., rein. conc. store on S. Third St.; comp. roof, conc. floors; Guy H. Baker, Contr.; Page Brothers, Archts., Austin Natl. Bank Bldg., Austin; M. L. Diver, Engr., San Antonio. 1-3

Tex., Turkey—John Sharp, Pres., First Natl. Bk., started work on 25x100-ft. brick store.

Va., Portsmouth—Esch Construction Co., Cleveland, Ohio, has contract to remodel 3-story brick store, 302-4 High St., for W. T. Grant Co., Inc., department store; \$15,000.

Warehouses

Ga., Atlanta—Massell Realty Co., 165 Spring St., N. E., erect \$60,000, 100x60 ft., 2-story and basement, brick warehouse and store, Walker and Fair Sts., S. W.; tar and gravel roof, conc. and wood floors, sprinkler system; E. C. Selz, Archt., 15 Poplar St.; Electric Storage Battery Co., 294 W. Peachtree St., N. W., Lessee; owner builds.

THE CLASSIFICATIONS IN THIS SECTION ARE:

WANT SECTION

Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

Machinery and Supplies

Boiler.—William F. Davis, Practical Mechanical Engineer, 501 Leath St., Memphis, Tenn.—Wants prices and data on vertical water-tube boiler, 200 H. P., high pressure.

Creamery Equipment.—Slaton Chamber of Commerce, City Hall, Slaton, Tex.—Wants prices and data on machinery for creamery, including butter-making machinery, for plant using 1000 to 2000 lb. of cream daily.

Electric Motors.—W. M. Smith & Co., Sam Smith, Birmingham, Ala.—Wants prices and data on electric motors, 220 or 550 volts; 100 Hp., 50 hp. and 25 hp.

Engine.—Cohutta Tale Co., F. F. Farrar, Sec. and Treas., Dalton, Ga.—Wants prices and data on 50-H. P. oil or gasoline engine for use at mine; second hand, good condition.

Generator.—Schwing Lumber & Shingle Co., Plaquemine, La.—Wants prices and data on 50 to 100 kw., 50 A. C., belt driven generator.

Generator Set.—Marine Corps, Quartermaster's Dept., Washington, D. C.—Bids Jan. 14 for furnishing generator set.

Laundry Equipment.—J. F. Blunt, 4 Brandman Bldg., Bluefield, W. Va.—Wants prices and data on laundry equipment suitable for mining camp, to be used in washing and drying towels and overalls.

Lathe.—Birmingham Engine & Machinery Corp., W. S. Shields, Sec., Birmingham, Ala.—Wants prices and data on used turret lathe, 20 in. swing, 5 to 6 ft. between chuck and center of turret, standard make and modern design.

Machine Shop Supplies.—Southern Aeronautical Service, Inc., 603 Audubon Bldg., New Orleans, La.—Wants prices and data on machine shop supplies.

Passenger Cars (Motor).—M. K. Frank (Iron and Steel Products, Steel Rail, Car Manufacturers), Park Row Bldg., New York, N. Y.—Wants prices and data on good, serviceable gasoline motor passenger cars, standard gauge, for use on street railroad.

Road Building Equipment.—Brown Craven Equipment Co., R. C. Craven, Mgr., 706 Manning St., N. Chattanooga, Tenn.—Wants prices and data on used finishing machine and used 8 or 9 in. road forms, first class.

Roofing Tile Machinery.—Harrison & Jones, Inc., A. M. Jones, Sec. and Treas., Roofing and Sheet Metal Work Contractors, 1437 W. Main St., Richmond, Va.—Wants prices and data on machinery for manufacturing roofing tile.

Skidder.—Veneer Manufacturing Co., Conway, S. C.—Wants prices and data on best gasoline driven small skidder for logging small tracts of lumber.

Sprinkler System.—Asheboro Pad Co., L. L. Whitaker, Asheboro, N. C.—Wants prices and data on sprinkler system.

Commercial Body Co., Bluefield, W. Va.—Wants prices and data on following:

- (1) Motor—small
- (2) Woodworking Machinery.

P. J. Jones, Inc., 700 Hurson Ave., Haines City, Fla.—Wants prices and data on following:

- (1) Lath—16 or 18 in. swing, 8 or 10 ft. bed, new or used
 - (2) Press (Drill)—21 in.
 - (3) Wrecker Crane—4-ton capacity.
- W. M. Smith & Co., Birmingham, Ala.—Wants prices and data on following:
- (1) Air Compressor—750 to 1000 cu. ft., belted or motor driven, preferably without motor, second-hand
 - (2) Angle Shear—4 or 5 in. angles
 - (3) Boiler—150 lb. pressure, 150 H. P., H. R. T.
 - (4) Clam Shell Bucket— $\frac{3}{4}$ to 1 yd.
 - (5) Punch—to punch 1 in. holes through 1 in. plate
 - (6) Steel Tower
 - (7) Water Tank—30 to 50,000 gal. capacity
 - (8) Wheel Press—100 to 200-ton capacity.
- Guyana Machine Shops, B. Shell, Pres., Logan, W. Va.—Wants prices and data on following:

- (1) Fans (Exhaust)—24 in. diameter, 220 volt A. C.
- (2) Hoist (I-Beam)—1 to 5-ton capacity, A. C. or D. C.
- (3) Lath—for turning steel tires and steel locomotive wheels up to 40 in. diameter and 32 to 48 in. gauge.
- (4) Mining Machines and Locomotives—250 volts.
- (5) Motor-generator or rotary converter, about 200 K. W., 2300 volt, 3 phase, 60 cy. A. C. to 550 volts D. C.
- (6) Motors—A. C. and D. C., 2 H. P. to 20 H. P., 220 volt.
- (7) Oven (Japanning)—for baking large armatures, natural gas or electric heat.
- (8) Piston Grinder—for auto and truck pistons.
- (9) Punch and Shear—No. 1 $\frac{1}{2}$ Buffalo Universal Iron Worker.
- (10) Transformers—60 cy., 2300 and 6000 to 220-440 volts, size 5 K. V. A., 60 cy., 50 K. V. A.
- (11) Welding Machine (Electric)—200 ampere, gasoline driven.
- (12) Wheel Press—300-ton capacity or larger.

Miscellaneous.

Airport Lighting Equipment.—Southern Aeronautical Service, Inc., 603 Audubon Bldg., New Orleans, La.—Wants prices and data on lighting equipment for flying field.

Barbecue Outfits.—G. E. Rankin, Box 8434, Northwood Station, West Palm Beach, Fla.—Wants prices and data on two or more barbecue outfits, operated by gas, electricity or coke, enclosed in glass and set up outside, enabling customers to see meats in process of cooking.

Egg Containers.—Frederic S. Moore, Apopka, Fla.—Wants prices and data on egg containers for shipping purposes, mail, express or freight.

Wagon Scales.—McRae Gin Co., McRae, Ark.—Wants wagon scales.

Statues.—Beaufort County Post No. 15, American Legion, E. D. Rowe, Commander, Washington, N. C.—Wants prices and data on 4 statues of American Doughboy.

W. A. Bickerstaff, Harrisville, W. Va., care of Reed, Wheeler, Young Oil & Gas Co., Clay, W. Va., wants following in connection with gas line contract:

- (1) Steel Rigs
- (2) Tubing—6 $\frac{1}{2}$ -in., 8-in. and 2-in.
- (3) Wire Rope.

Salm Mfg. Co., J. W. Bell, Torrance, Calif.—Wants prices and data on following:

- (1) Fountain Pen Holders—to attach to base for fountain pens
- (2) Ink Wells
- (3) Ink Well Tops
- (4) Frames—for buttons and buckles suitable for inlaying with pearl and other materials; to be used for hat and dress ornaments, etc.

Building Material and Equipment.

Blount Construction Co., 601 Macon Natl. Bank Bldg., Macon, Ga., wants prices on limestone for \$50,000 grandstand.

L. Kaufman, 102 S. Flores St., San Antonio, Tex., wants prices on following for \$15,000 store:

- Electric Refrigerators
- Flooring—linoleum
- Metal Ceilings
- Sprinklers
- Steel Sash and Trim
- Wire Glass.

John K. Davis & Son, Contrs., Athens, Ga., wants prices on following for \$32,000 building for Chi Phi Fraternity:

- Flooring—hardwood
- Limestone
- Marble
- Metal Doors
- Roofing—asphalt shingle
- Tile—interior.

J. L. Minor, Calhoun City, Miss.—Wants prices on following for garage, offices and Masonic hall:

- Plate Glass
- Plumbing
- Roofing and Asphalt
- Shop Equipment
- Steam Heating.

Will N. Noonan Co., Bldrs. Exch. Bldg., San Antonio, Tex., wants prices on following for office building, Arlington, Tex.:

- Cast Stone
- Electric Refrigerators
- Flooring—hardwood, linoleum, tile
- Roofing—built-up, slate
- Vaults.

Walter Thomas Williams, Archt., 41 E. 42nd St., New York City, wants prices on following in connection with remodeling 4-story building at Kansas City, Mo., for Louis K. Liggett Co.:

- Dumb Waiters
- Electric Refrigerators
- Elevators
- Flooring—hardwood, terrazzo, tile
- Marble
- Metal Ceilings
- Metal Doors
- Tile—gypsum, hollow
- Brass and Bronze Work.

Guyana Machine Shops, B. Shell, Pres., Logan, W. Va., wants prices on garage, steel, 40x40 ft., 1 or 2 story.

H. L. Mott, Bldr., Warwick Hotel, Houston, Tex., wants prices on following for dwellings:

- Cast Stone
- Flooring—hardwood, linoleum, terrazzo, tile, composition
- Mail Chutes
- Marble
- Metal Ceilings
- Metal Doors
- Plaster Boards
- Roofing—slate
- Steel Sash and Trim.

Bids Asked

Bolts.—Pur. Agt., P. O. Dept., Washington, D. C.—Bids Jan. 23 for 15,000 carriage bolts.

Bridge.—Baltimore, Md. See Construction News—Bridges, Culverts, Viaducts.

Bridge Substructure.—Charleston, W. Va. See Construction News—Bridges, Culverts, Viaducts.

Bridge.—New Orleans, La. See Construction News—Bridges, Culverts, Viaducts.

Cable.—Commrs. District of Columbia, Washington, D. C.—Bids Jan. 15 for 56,400 ft. composite telephone or signal code cable for electric dept.

Dikes.—U. S. Engr. Office, Kansas City, Mo.—Bids Jan. 28 for approx. 8600 ft. standard pile clump dikes in Missouri River at Hermann Reach, near Hermann, Mo.

Dikes and Revetment.—U. S. Engr. Office, Kansas City, Mo.—Bids Jan. 25 for construction of approx. 4,200 ft. standard pile clump dikes and about 7,800 ft. standard revetment in Missouri River at Baltimore Bend, about 2 mi. from Hodge, Mo.

Dikes and Revetment.—U. S. Engr. Office, Kansas City, Mo.—Bids Jan. 22 for construction of approx. 6,900 ft. standard pile clump dikes and about 13,500 ft. standard revetment in Missouri River at Moberly Bend, 2 mi. from Hodge, Mo.

Drainage System.—Q. M. Fort Crockett, Tex.—Bids Jan. 15 for drainage system.

Dredging.—U. S. Engr. Office, Wilmington, N. C.—Bids Feb. 9 for furnishing all labor and materials and performing all work for dredging approx. 11,692,000 cu. yd. in Sections One and Two of Intracoastal aWaterway, from Beaufort to Cape Fear River, N. C.

Dredging.—War Dept., U. S. Engr. Office, Galveston, Tex.—Bids Feb. 1 for dredging approx. 5,200,000 cu. yd. from Section One, and 2,500,000 cu. yd. from Section Two, of Houston Ship Channel, Tex., between Morgan Point and Bolivar Roads.

Dredging.—U. S. Engr. Office, 300 Custom House, Baltimore, Md.—Bids Jan. 23 for dredging approx. 48,000 cu. yd. of material in Kent Island Narrows.

Dredge Repairs.—War Dept., U. S. Engr. Office, Montgomery, Ala.—Bids Feb. 15 for furnishing all labor and materials and performing all work for building houses, transferring and installing all machinery, piping, galleys frame, A frame, spud frames and cpuds for 15-in. pipe line dredge "Blackwater."

Dredge Parts.—U. S. Engr., Galveston, Tex.—Bids Jan. 14 for upper half pump shell, 2 runner shafts, 3 runners, 2 suction mouth pieces and 3 bracket bearings.

Drills and Grinders.—Navy Dept., Bureau of Supplies and Accounts, Washington, D. C.—Bids Jan. 15 for drills and grinders, electric, portable.

Extinguisher Recharges.—Pur. Agt., P. O. Dept., Washington, D. C.—Bids Jan. 23 for 500 gals. fire extinguisher recharges for liquid fire extinguishers.

Forgings, etc.—U. S. Engineer Office, Kansas City, Mo.—Bids Jan. 14 for 4716 lbs. forgings, 9037 lbs. struc. steel and bolts and washers.

Generator Set, etc.—Q. M. Marine Corps, Washington, D. C.—Bids Jan. 14 for one 100 kw. generator, switchboard and accessories.

Generator Set.—Dept. of Justice, Washington, D. C.—Bids Jan. 15 for furnishing, delivering and installing turbo generator sets, exciters, switchboards, condensers, cooling towers, piping in U. S. Penitentiary, Atlanta, Ga.

Jacks.—Pur. Agt., P. O. Dept., Washington, D. C.—Bids Jan. 23 for 600 jacks, capacity 4000 lbs. and 150 motor truck jacks, capacity 10,000 lbs.

Lamp Posts.—Bd. of Awards of Baltimore City, Office of City Register, City Hall, Baltimore, Md.—Bids Jan. 23 for plain and ornamental iron lamp posts.

Miscellaneous.—U. S. Engr., Galveston, Tex.—Bids Jan. 14 for supplies as required for 4 months, beginning Feb. 1, including axes, brass, buckets, oil cans, lamp chimneys, twine, iron, steel, screws, gaskets, steam and pipe fittings, etc.

Miscellaneous.—A. L. Flint, Gen. Pur. Officer, Panama Canal, Washington, D. C.—Bids Jan. 18 for motor vehicles, conc. mixer, blowers, valve gates, pumps, clocks, wire screening, wire lathes, etc. Sch. 1930.

Paper.—Joint Committee on Printing in the Capitol, Washington, D. C.—Bids Jan. 23 for furnishing paper for public printing and binding and blank paper for use of government departments and establishments in District of Columbia, for 1 year beginning Mar. 1, deliveries f. o. b. Washington; specifications, etc., from Geo. H. Carter, Public Printer, Washington.

Pipe (Terra Cotta).—See Water Works and Sewers.

Pipe (Vitrified).—See Sewers.

Pipe (Reinforced Concrete).—Washington Suburban Sanitary Comm., Evans Bldg., New York Ave., Washington, D. C.—Bids Jan. 18 for furnishing and delivering 5600 ft. of 36-in. rein. conc. sewer pipe; Robt. B. Morsem, Ch. Engr. of Dist., Hyattsville, Md., Cont. No. 76-S.

Pumps and Equipment.—Winter Garden Development Co., Ted E. Logan, Sec., Winter Haven, Tex.—Developing 2000-acre tract, wants pumps and equipment.

Pump House, etc.—City of El Paso, Tex.—Bids Jan. 15 for conc. pump house, steel derrick, conc. settling basin to be located at City Water Works Well No. 9, 3900 Pera St.

Road.—Independence, Mo. See Construction News—Roads, Streets, Paving.

Sewers.—City of Clarksburg, W. Va.—Bids Jan. 15 for grading part of N. Third St., sanitary sewers on Ohio Ave. and N. Second St.; 1250 cu. yds. excavation; 65 ft. of 12-in. vit. sewer pipe; 1960 ft. of 8-in. vit. sewer pipe.

Sewers.—Sewerage and Water Bd., New Orleans, La.—Bids Feb. 27 for Contr. 103-D, extension of drainage pumping station No. 6; Contr. 104-D, furnishing and installing motors, switchboards and accessories; Contr. 202-D, constructing lined and covered drainage canals.

Sewer.—See Water Works and Sewers.

Steel Derrick.—U. S. Engr. Office, Vicksburg, Miss.—Bids Jan. 18 for 1 all-steel derrick.

Street.—Clarksburg, W. Va. See Construction News—Roads, Streets, Paving.

Street.—Baltimore, Md. See Construction News—Roads, Streets, Paving.

Street.—Montgomery, Ala. See Construction News—Roads, Streets, Paving.

Traveling Crane.—A. L. Flint, Gen. Pur. Officer, Panama Canal, Washington, D. C.—Bids Jan. 23 for one 40-ton and one 20-ton electric traveling crane. Sch. 1931.

Water Works and Sewers.—City of High Point, N. C., W. A. Davis, Mayor—Bids Jan. 15 for water and sewer improvements, including following: Trenching, laying and backfilling 970 of 18-in., 2483 ft. of 12-in. and 5032 ft. of 8-in. sanitary sewer line complete; constructing 35 manholes; furnishing following material, f. o. b. cars High Point; 970 ft. of 18-in., 2483 ft. of 12-in. and 5032 ft. of 8-in. terra cotta sewer pipe; P. J. Dishner, Supt., Water and Sewer Dept.

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers, whether they are advertisers, or subscribers, or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Announcing Blawsteel Sheathing.

Blawsteel roof sheathing, a product of the Blaw-Knox Company, Pittsburgh, Pa., is described as light in weight, strong, fire safe and impervious to dampness. It will not shrink or crack or burn, is easily and cheaply erected, and is economical, the manufacturers say. They add that the sheathing will carry a roof load of 65 pounds per square foot on standard purlin spacing with a factor of safety of four, with less than allowable deflection for plaster ceilings, and 100 pounds per square foot with only 3/16 inch deflection. The Blawsteel sheathing is made of galvanized steel.

Review of Public Utilities.

The importance of electric power and light companies, together with much important data on the gas and telephone industries, is discussed and set forth in the Annual Review of the Public Utility Industry issued by Pyncheon & Co., New York, Chicago and London, and available on request to them. This company, which has long been identified with the financing of many important public utility companies and is considered an expert on the electric power and light, gas, telephone and allied industries, says that public utilities in 1928 established new high records.

Car Company Offers Locomotives.

With more than 30 years' experience in the building of freight and passenger rolling equipment for city and interurban electric railway service, the Cincinnati Car Corporation, Cincinnati, Ohio, now offers a complete line of industrial locomotives in gasoline, gasoline-electric, Diesel, electric trolley and storage battery types, known as the Cincinnati line. These will be furnished in sizes from 2 and 3-ton units up to 50-ton, or larger, and in various track gauges. The corporation has large shops at Winton Place, Cincinnati, and a capable engineering department. H. R. Sykes will be in charge of sales and service of the locomotive division.

American Engineering Representative.

The American Engineering Company, Philadelphia, announces the selection of H. H. Jarrett & Co., Morris Building, Atlanta, as its Southern representatives for its Lo-Hed electric hoists.

Citizens Savings Bank Report.

Assets of \$8,850,474, with deposits aggregating \$8,044,069, including interest, are shown in the report of the Citizens Savings Bank of Baltimore, at the close of 1928. The number of accounts increased 953, net, in the year, and the number on December 31 was 15,001. Expenses for the year were \$43,500, taxes ran to \$23,300, and \$4,121,000 was paid to depositors, including interest. Over \$3,750,000 is out on mortgages and \$363,700 on collateral.

Eutaw Savings Bank, 1928.

The report of the Eutaw Savings Bank, Baltimore, for 1928, shows \$46,612,530 due to depositors, including interest, with 47,355 accounts open, and an undivided surplus of \$2,664,712. In the year, \$14,827,713 was received from depositors and \$14,462,204 was paid to depositors, and funds on hand as of December 31 were \$51,777,242. The expenses for the year were \$196,763, including improvements to the banking house; investments are \$30,600,000, book value, and mortgage loans \$19,434,000.

Savings Bank of Baltimore.

As reported by the Savings Bank of Baltimore, that institution had 61,688 accounts open as of December 31, a net gain of \$29 for the year, and the amount due to depositors was \$69,679,555. Deposits received in the year were \$19,900,000, and depositors were paid \$18,500,000, including interest. Expenses ran to \$183,650 and taxes to \$192,479, while the assets showed, among other items, investments with a book value of \$54,329,000. William H. Conkling is chairman, Austin McLanahan is president, S. Sterett McKim vice-president, Thomas Cradock treasurer and James K. Stewart assistant treasurer.

Hopkins Place Savings Report.

As reported by the Hopkins Place Savings Bank, Baltimore, Md., approximately 500, net, new accounts were added to its business in 1928, the number on December 31 having been 26,741. Over \$6,687,000, including interest, was paid to depositors in 1928, and \$7,765,000 was received, while \$19,475,000 was on deposit at the year's close. Expenses for the year were \$81,500. Among the assets are bonds and stocks valued at \$10,700,000, with \$730,000 on loan on collaterals and \$8,291,000 on mortgages. Funds on hand, December 31, \$20,000,000. Robert M. Rother is president, John W. Reinhart, treasurer.

Over 1800 New Depositors.

Net gain of 1826 depositors in 1928 is reported by the Provident Savings Bank of Baltimore, which also shows deposits running over \$15,000,000, with 83,406 accounts open at the close of the last year. Christmas club deposits, which have become a factor in modern banking, amounted to \$41,000. The year closed with \$16,244,000 funds on hand, and guarantee fund and undivided surplus and interest was \$1,132,000. Expenses ran to \$134,490 for the year. Elisha H. Perkins is chairman of the board; Charles C. Duke, president; G. Herbert Boehm, Otto V. Yursik, James Carey, Jr., and Lemuel T. Appold, vice-presidents, and William J. Haacke, treasurer.

Product Trade Name Change.

The Magnetic Manufacturing Company, Milwaukee, Wis., manufacturer of high duty magnetic separators, magnetic clutches and special magnetic equipment, announces that its products hereafter will bear the trade name "Stearns" in addition to the former trade name "High Duty." The new designation is derived from the names of company officers, R. H. Stearns, president and treasurer, and R. N. Stearns, secretary. No change will be made in the company title.

New Name for Subsidiary.

The International Combustion Engineering Corporation, New York City, announces that its subsidiary, the F. J. Lewis Manufacturing Company, producer of coal tar products since 1887, hereafter will be known as the International Combustion Tar and Chemical Corporation, with offices at 200 Madison avenue, New York, and 2500 South Robey street, Chicago. Of the company's six plants, one is at Fairmont, W. Va., and another at Chattanooga.

Named Timken Vice-President.

The Timken Roller Bearing Company, Canton, Ohio, announces the appointment of Judd W. Spray as vice-president and general sales manager. Mr. Spray has been general sales manager of the company since 1926, and previous to that had been sales manager of the automotive division of the company in Detroit for several years.

To Represent Harnischfeger.

The Harnischfeger Corporation, Milwaukee, Wis., announces the appointment of the Ed. P. Phillips Machinery Company, Richmond, as district agent for the Virginia territory. The Phillips company will handle the line of P&H excavating equipment.

Charles A. Daniel.

The Quaker City Rubber Company, Wissinoming, Philadelphia, Pa., announces the death of Charles A. Daniel, president, who passed away on December 24.

Savings Banks Are Sound.

In no way is the soundness of American prosperity more convincingly shown than in the business of the savings banks of the country and, to judge from annual reports, the savings banks showed constructive advancement in 1928 and enter 1929 in fine condition. To take Baltimore as a representative city and its banks as representative of general savings banks conditions, one finds some interesting figures. The Hopkins Place Savings Bank of that city, for instance, shows a net increase of over 400 depositors, and a gain of about \$900,000 in deposits. Over 900, net, gain in the number of

depositors was shown by the Citizens Savings Bank of Baltimore, with deposits of \$8,000,000 and mortgage loans over \$3,750,000. The Eutaw Savings Bank shows 47,355 accounts open and \$46,000,000 on deposit; investments of \$30,600,000 and mortgage loans of \$19,434,000. The Savings Bank of Baltimore had 61,688 accounts open on December 31, nearly \$20,000,000 in deposits having been received in 1928 and \$18,500,000, including interest, paid out to depositors. The Provident Savings Bank of Baltimore, also shows marked progress, with a net gain of 1826 depositors, making 83,400 accounts now open, with deposits over \$15,000,000. The Baltimore savings banks show tremendous business, and reflect sound conditions.

\$22,000,000 for Highway Building in Texas in 1928.

Contracts totaling more than \$22,000,000 were made by the Texas State Highway Commission for road construction during the past year, according to data compiled in the department. Approximately \$10,000,000 went for maintenance.

Efforts were centered in filling the existing gaps in the main arteries of travel. One of the most important projects for which the contract was let was the bridge over the Brazos river between Washington and Waller counties which will cost \$341,579. It will replace a ferry now used. When the river is too high or too low for the ferry, a long detour over country roads is necessary.

400 Miles of Roads for Louisiana in 1929.

New Orleans, La.—The Louisiana Highway Commission, Baton Rouge, is expected to announce soon a definite program of highway construction during 1929, which will comprise approximately 400 miles of hard-surfaced roads, according to O. K. Allen, chairman. In addition to projects calling for paved highways, others calling for gravel surfacing are expected to carry state road work into all of the 64 parishes. Preference will be given to gravel roads to connect with main highways.

Will Sell \$350,000 Bonds for Underpasses.

Lubbock, Tex.—The city of Lubbock will soon sell \$350,000 of bonds for the construction of two underpasses, city funds to be matched by funds of the Santa Fe System. A subway on North Avenue H will consist of two 36-foot spans under four tracks, to provide two 15-foot driveways and 4-foot sidewalks, with a vertical clearance of 14 feet. A similar structure on East Broadway will consist of two 30-foot spans under 11 tracks, to provide two 15-foot driveways and two 4-foot sidewalks, also with a vertical clearance of 14 feet.

Florida County Offers \$1,500,000 Road Bonds.

Ocala, Fla.—The Marion County Board of Commissioners will receive bids until January 19 for the purchase of \$1,500,000 highway bonds dated February 1, 1929, and maturing serially from 1938 to 1953, inclusive. The bonds will be issued in denominations of \$1000 and will bear the lowest interest rate (not exceeding 6 per cent in multiples of one-fourth of one per cent) for which a bid of not less than 95 and accrued interest is made. T. D. Lancaster, Jr., is clerk to the commissioners.

\$839,925 to Repair Palm Beach Boulevard.

Palm Beach, Fla.—A report of Town Manager L. Trevette Lockwood to the city council indicates that Palm Beach may begin the reconstruction of the damaged sections of Ocean Boulevard within the city limits by next summer. It is probable that a bond issue would be necessary for a portion of the work. Based on the same type of protective work which saved sections of the boulevard in the September hurricane, it is estimated that the project would cost \$839,925.

Public-Utility Earnings Increase.

Gross earnings of public-utility enterprises in November, exclusive of telephone and telegraph companies, as reported to the Department of Commerce by 95 companies or systems operating gas, electric light, heat, power, traction and water services and comprising practically all important organizations in the United States, were \$193,000,000 as compared with \$186,000,000 in October, and \$182,077,497 in November, 1927.

\$73,125,000 APPORTIONED AS FEDERAL AID FUND FOR ROADS.

More Than \$25,000,000 Allotted to 16 Southern States—Texas Leads All States With \$4,531,162.

The Secretary of Agriculture has apportioned \$73,125,000 to the States as Federal aid in road construction for the fiscal year, beginning July 1, 1929. This apportionment has been authorized by Congress for continuing the Federal-aid program, and funds will be expended according to the same provisions which have governed past expenditures. In general the States pay half the cost of Federal-aid construction. Federal-aid funds are administered by the Bureau of Public Roads and are available only for routes on the Federal-aid system which includes the main highways.

Of the total apportionment, more than \$25,000,000 has been allotted to the 16 Southern States and of this allotment Texas leads with an appropriation of \$4,531,162 which is in excess of the appropriation allotted any other state in the Union.

During the last fiscal year improvements were completed on 8184 miles of Federal-aid road in the country which had not previously been improved with Federal assistance, and advanced stages of improvement were completed on 2014 miles.

The apportionment is as follows:

Alabama, \$1,554,221; Arizona, \$1,061,111; Arkansas, \$1,284,382; California, \$2,495,345; Colorado, \$1,388,755; Connecticut, \$477,110; Delaware, \$365,625; Florida, \$909,235; Georgia, \$1,980,443; Hawaii, \$365,625; Idaho, \$933,902; Illinois, \$3,118,949; Indiana, \$1,917,036; Iowa, \$2,020,861; Kansas, \$2,058,305; Kentucky, \$1,417,634; Louisiana, \$1,026,636; Maine, \$678,501; Maryland, \$633,615; Massachusetts, \$1,090,077; Michigan, \$2,204,966; Minnesota, \$2,108,104; Mississippi, \$1,311,391; Missouri, \$2,392,021; Montana, \$1,554,060; Nebraska, \$1,586,299; Nevada, \$960,375; New Hampshire, \$365,625; New Jersey, \$937,434; New Mexico, \$1,189,085; New York, \$3,617,748; North Carolina, \$1,716,919; North Dakota, \$1,197,586; Ohio, \$2,754,446; Oklahoma, \$1,748,857; Oregon, \$1,191,989; Pennsylvania, \$3,325,854; Rhode Island, \$365,625; South Carolina, \$1,061,447; South Dakota, \$1,229,282; Tennessee, \$1,609,662; Texas, \$4,531,162; Utah, \$848,592; Vermont, \$365,625; Virginia, \$1,433,405; Washington, \$1,149,489; West Virginia, \$796,408; Wisconsin, \$1,854,580, and Wyoming, \$939,536.

\$2,500,000 Road and Bridge Contracts.

Nashville, Tenn.—Contracts have been awarded by the State Highway Department for constructing 11 road and bridge projects to cost more than \$2,500,000, embracing the following:

Henry-Stewart Counties—steel and concrete bridge over Tennessee River at mouth of Big Sandy River, Whiting-Turner Construction Co., Baltimore, Md., contractor at \$866,468.

Roane County—steel and concrete bridge over Tennessee River near Kingston, Whiting-Turner Construction Co., \$237,770.

Grundy County—grade and drainage of 9.455 miles of road and bridges, Houston Foster, Lavergne, Ala., \$107,917.

Cumberland-Roane Counties—concrete and timber bridges and approaches, Southern Construction Co., Birmingham, Ala., \$55,613.

Shelby County—grade and drainage of 4.784 miles, F. G. Hall, Martin, Tenn., \$129,815.

Fentress County—grade and drainage of 6.922 miles and two bridges, M. T. McArthur, Johnson City, Tenn., \$139,342.

Montgomery County—grade and drainage of 1.422 miles bridge approaches, Alexander Bros. & Hopson, Cadiz, Ky., \$25,300.

Sullivan County—grade and drainage of 7.739 miles with concrete bridge, Walters & Prater, Dandridge, Tenn., \$255,152.

Williamson County—grade and drainage of 9 miles with two concrete bridges, Chandler Bros., Virgilina, Va., \$107,385.

Davidson County—grade and drainage of 6.107 miles with two steel and concrete bridges, R. E. Martin, Pulaski, Tenn., at \$84,145, for roads, and Lebanon Bridge Co., Franklin, Tenn., at \$66,611, for bridges.

Johnson County—grade and drainage of 16.3 miles with four concrete bridges, Jerry W. Gwin, Birmingham, at \$164,463 for roads and Murphy & Attwater, Hopeville, Ga., at \$42,280, for bridges.

Mechanical Handling of Flax May Open a New Era in Textiles.

By G. A. LOWRY, Lowry & Grant, Inc., New York City.

The development of mechanism for handling flax from its growth to delivery at the mill has reduced the cost to less than half that of ginned cotton. This mechanism consists of machines for harvesting it, threshing and scutching it in one operation, a new and simple process for retting the fiber at its destination and other mechanism for "cottonizing" it so it can be worked with cotton on cotton machinery.

Flax is the most universally grown of all crops, its limits being from the borders of the Arctic to the borders of the Antarctic, but arduous hand labor required for its handling has confined its production for fiber purposes to sections where labor was cheap and plentiful.

There are now 20,000,000 tons of flax straw going to waste annually, which with the same labor and the right seed can be utilized for fiber and even more seed obtained than at present.

Cotton growing, particularly in the Southeastern states, has become so hazardous and so unprofitable that all the planters approached on the subject have expressed a desire to grow flax if shown a market for their straw, and those of the Northwest say they will gladly grow fiber flax if given the proper seed and guaranteed a market.

There is no doubt that cotton producers need a crop not affected by weevil and which can be handled mechanically, and that the cotton mills need newer, better and cheaper fabrics. Perfecting of mechanism to displace hand labor and get rid of the objectionable retting of the straw has made this feasible and opens up a new era to those interested in textiles.

Conservative costs of producing flax fiber in the United States and Canada are as follows:

Per acre	Cost
Rental of land.....	\$10.00
Ploughing with tractor.....	2.50
Fertilizer	6.00
Harrowing twice	1.00
Seeding, 90 pounds.....	5.00
Rolling	1.00
Machine pulling (hand pulling costs \$11.00 to \$16.00 per acre) ..	9.00
Shocking50
Stacking	2.00
Average haul to mill.....	2.00
Interest on outlay.....	1.00
Average amount of straw, with seed, on 4000 pounds. This yields 640 pounds seed, 797 pounds fibre and 2563 pounds shives.	
Cost of threshing and scutching 797 pounds fibre.....	10.00
Cost of retting, new method—797 pounds fibre.....	15.00
Total cost	\$65.00
Credit—	
11½ bushels seed @ \$2.00 per bushel.....	23.00
(This is the old price for seed. For reseeding it would bring much more.)	
	\$42.00

The 797 pounds of linen fiber cost \$42 or .0527 cents per pound. No value is placed on the shives though when ground up with seed they make a good food for cattle. The cost hitherto of producing flax fiber in the United States and Canada has been 15c per pound.

There is no more intelligence required to handle flax by the new mechanical methods than that required for growing and harvesting wheat or oats.

Tri-State Aircraft Exposition.

Pittsburgh, Pa., January 4—The tri-state region's first aircraft exposition will be held in Motor Square Garden, Pittsburgh, March 9-16, under auspices of the Aero Club of Pittsburgh. Depicting the rapid growth of aviation in this section of the country, the exposition will be known as the First Annual Pittsburgh Aircraft Show. Virtually every well known type of commercial and private plane will be on display, including motors and accessories. States already represented in the list of exhibitors include Pennsylvania, Mary-

land, New Jersey, New York, Ohio, West Virginia, Illinois, Virginia, Delaware, Kansas and the District of Columbia.

Educational and historical displays, including exhibits by the Army, Navy and the Department of Commerce will be brought to Pittsburgh for the show. Numerous meetings for the purpose of discussing aeronautical matters affecting the tri-state area also are scheduled to be held in connection with the exposition.

Jacksonville to Vote on \$2,100,000 Bonds.

Jacksonville, Fla.—An election will be held February 19 on bonds in the amount of \$2,100,000, of which \$1,500,000 will be for sewerage and drainage work. Other items include \$300,000 for meeting the city's portion of the cost of petition street-paving projects and \$300,000 for widening and paving certain main thoroughfares entering the city.

Florida County to Sell \$1,500,000 Bonds.

Ocala, Fla.—By order of a resolution passed by the Marion County Board of Commissioners bids will be received until January 19 for the purchase of \$1,500,000 of bonds remaining unsold of the 1925 issue of \$4,555,000. Proposals will be asked for amounts of \$500,000, \$1,000,000 and \$1,500,000 and if a bid for one of the smaller amounts is accepted, it is understood no other bonds will be offered for a period of four months.

Contracts for Extension of Glass Plant.

Charleston, W. Va.—Through the Chicago office of Lockwood Greene Engineers, Inc., the Libbey-Owens Sheet Glass Co., Toledo, Ohio, awarded the following contracts for the extension to its cutting department and heating plant at the Kanawha plant in Charleston:

General construction—H. G. Agsten & Sons, Charleston.
Boilers—Kanawha Equipment Co., Charleston.
Boiler settings—A. G. Higginbotham Co., Charleston.
Fire protection system—Cleveland branch of Automatic Sprinkler Corporation, New York.
Heating and boiler pipe system—Howard C. Baker Co., Toledo.

Selection Promises Profit for Shreveport.

Shreveport, La., January 5—[Special.]—The selection of Shreveport as the permanent home of the Third Attack Wing of the Air Corps by the War Department is regarded by the citizens as a most profitable achievement. The construction item alone will mean a big jump in building activities for the city, while the steady upkeep of the post and the attendant expenses will mean a considerable outlay of money. The buying power of the officers and men and their families presents a pleasing aspect to the retailers.

Shreveport won the Attack Wing in competition with some 50 other cities, and in selecting Shreveport the Government accepts a 20,000-acre tract of land about three miles from the city, and donated by the city. The immediate cost of construction will be around \$8,000,000. Ten big steel hangars, 200 by 100 feet, will be erected; numerous machine shops and all facilities for 1200 enlisted men and homes for 250 officers and their families are included in the plans for the construction of the unit. The annual payroll will amount to between \$3,000,000 and \$4,000,000, besides expenditures for maintenance of the unit and housing the personnel.

While the attack wing will ultimately have 110 planes, 197 officers and 1340 enlisted men, the unit now consists of only the third attack group of 36 planes, 30 officers and 380 enlisted men temporarily stationed at Galveston. It is expected that the attack wing will be fully organized by June 30, 1931. Negotiations with the War Department for its establishment were handled by a special Attack Wing committee of the Shreveport Chamber of Commerce.

TRADE "LEADITE" MARK

Registered U. S. Pat. Office

Eliminating Repairs and Maintenance Costs

TRENTON WATER WORKS, Trenton, N. J., has been using Leadite for making joints in c. i. bell and spigot water mains for a great many years with entire satisfaction.

They have laid nearly 75 miles of c. i. pipe of various sizes with Leadite joints.

Trenton has very good paved streets and they have never had to dig up a Leadite joint for repairs during all the time they have been using Leadite. They consider this excellent performance for Leadite joints.

They find the use of Leadite has reduced to a minimum repairs and maintenance costs.

Trenton Water Works has always found Leadite joints efficient and economical.

They keep a check on their distribution system by water waste surveys.

During the severe winter of 1917-18 Trenton Water Works had over 2000 frozen services. Many of these services were connected to mains laid with Leadite joints. They had no difficulty in thawing, with electrical apparatus, services connected with mains which were laid with Leadite joints.

Mr. Alvin Bugbee is Superintendent of the Trenton Water Works.

Specify
and use
LEADITE
It saves
at least **75%**

Be sure
it is
LEADITE
and accept
no imitations

*The pioneer self-caulking material for c. i. pipe.
Tested and used for over 30 years.*

THE LEADITE COMPANY . . Land Title Building . . PHILADELPHIA, PA.

NO CAULKING

\$25,000,000 EXPENDITURE BY ROCK ISLAND LINES.

1929 Budget Provides for 85 Miles New Line in Missouri and 61 Miles in Texas and Kansas.

Trenton, Mo.—The Rock Island Lines recently announced from the Chicago office a 1929 budget calling for the expenditure of approximately \$25,000,000, exclusive of new equipment. The construction program for the year calls for 85 miles of a new line from Trenton to Birmingham, Mo., and of 61 miles of new line from Gruver, Tex., to Liberal, Kans. Other construction items budgeted include new yard terminals at El Reno, Okla., and Pratt and Liberal, Kans., to cost \$1,000,000; grade revision in Dallas County, Texas, \$400,000; steel car repair shop at El Reno, \$370,000, and freight terminal at Omaha, Neb., to cost \$240,000.

MISSOURI-PACIFIC LINES PURCHASE \$1,548,000 OF EQUIPMENT.

Budget for 1929 Calls for \$10,750,000 Expenditure.

St. Louis, Mo.—New equipment to cost \$1,548,000 has been purchased by the Missouri-Pacific Lines, according to L. W. Baldwin, president. It includes 25 eight-wheel switch engines, 10 of which will be equipped for burning oil and the remaining ones to burn coal; 20 air dump cars for construction work, two 25-ton locomotive cranes and one 150-ton heavy duty self-propelling wrecking crane. The locomotives will be built by the Lima Locomotive Works, Inc., of Lima, Ohio, and the air dump cars by the Western Wheeled Scraper Co., of Aurora, Ill. The locomotive cranes and wrecking crane will be built by the Industrial Brownhoist Corp., of Cleveland, Ohio. Delivery of the new equipment will begin about April 1.

This purchase is a portion of the 1929 new equipment program to cost about \$10,750,000. Other equipment authorized includes 2000 box cars, 500 coal cars, 500 stock cars, 40 all-steel passenger cars and 60 cabooses.

\$5,000,000 St. Louis Municipal Auditorium to Seat 12,000 and Music Hall 3500—Ground Floor for Exhibition Space.

Plans for the proposed \$5,000,000 municipal auditorium to be erected in St. Louis, Mo., as prepared by the Plaza Commission, Inc., represent an intensive study by the commission for a period of more than 18 months. A number of cities were visited for the purpose of collecting data and various sources of information were consulted in order to insure an impressive structure.

The building will face the new Memorial Plaza and will occupy an entire block from Fourteenth street to Fifteenth street on Market street, extending south toward Clark avenue, a distance of practically two full city blocks. It is designed to accommodate large gatherings, conventions, exhibitions, concerts, operatic performances and other spectacles. Over-all dimensions are 322 feet from east to west, 493 feet from north to south, with a height of 162 feet from the street to the ridge line of the main arena. The interior height of the arena from floor to ceiling will be 90 feet, while the interior width, which will be spanned with trusses, will be 270 feet. There will be no pillars to interfere with the vision and it is estimated that the auditorium, which will seat 12,000, may be evacuated in from ten to twelve minutes. Access will be afforded by six large ramps or inclined passages instead of stairways.

In addition to the arena, the building will contain a mod-

ern music hall or theater with a seating capacity of 3500, which will be approached directly from the Plaza through nine entrances leading into a larger foyer. It will be separated from the arena by a completely equipped stage, 142 feet long and 48 feet deep, with a proscenium serving both the music hall and arena, equipped with soundproof curtains so the stage may be used in connection with either unit. With both curtains raised, the entire seating capacity of both units may be made available at the same time. On either side of the music hall, four smaller halls have been provided to seat 750 each. They are equipped with separate entrances, stairways, elevators cloak and rest rooms and other facilities.

The ground floor of the building will be devoted to exhibition space to accommodate automobile shows, household, electric, commercial and other exhibits, a total of 94,000 square feet of space being available on the first floor and about 25,000 square feet on the arena floor. Numerous rooms of varying sizes will be used for committee meetings in connection with exhibits or conventions, with rooms also available for the press, concert rehearsals, musical library and storage, green rooms, dressing rooms, shops and storage. The stage will be equipped with modern lighting devices and complete apparatus for securing scenic effects.

The structure will be heated from the municipal powerhouse or central heating plant and will be equipped with a blast system such as is commonly used in modern auditoriums and theaters. Exterior walls will be faced with Bedford stone in harmony with the monumental character of the design and in conformity with the present Municipal Courts building, the new Civil Courthouse and the Soldiers' Memorial.

The Plaza Commission, Inc., is composed of LaBeaume and Klein; Mauran, Russell and Crowell; William B. Ittner; Helfensteller, Hirsch and Watson; Klipstein and Rathmann; T. P. Barnett & Co.; Preston J. Bradshaw, and George D. Barnett, all architects, and the engineering firms of Brussel and Viterbo and F. C. Taxis & Co. E. R. Kinsey, president of the Board of Public Service, and Harland Bartholomew, engineer of the City Plan Commission, are ex-officio members of the Plaza Commission.

\$415,953 for Building Jacksonville Bridge.

Jacksonville, Fla.—Upon the recommendation of Joseph E. Craig, engineer on the project, the City Commission has awarded contract at \$415,953, to the Walter J. Bryson Paving Co., Jacksonville, for constructing the McCoy's Creek bridge. It is pointed out that at this figure, the entire cost of the project, including engineering and property purchases, would come within \$560,000, the amount of bonds authorized for the work.

Bids on \$300,000 Bank and Office Building.

San Angelo, Tex.—Bids will be received until January 21 by C. C. McBurnett for a \$300,000 bank and office building here. Anton F. Korn, Dallas, is the architect and B. M. Morgan, of this city, associate architect. The building will be 100 by 50 feet, fireproof, from 6 to 10 stories, with a 12-foot foundation.

\$4,791,000 Road Bonds Voted by Texas County.

Waco, Tex.—Voters of McLennan County have approved a bond issue of \$4,791,000 for roads. The construction program, which is expected to be completed within three years, calls for 330 miles of gravel roads and 169 miles of concrete, the latter to be 20 feet wide.

The City of Graham, Texas, R. F. Fowler, clerk, will open bids January 17 for the purchase of \$225,000 5 per cent water-works bonds.



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Government Can Help Agriculture by Chemical Research.

In an address at a recent meeting of the American Farm Bureau Federation at Chicago, Dr. Charles M. A. Stine, chemical director of E. I. du Pont de Nemours & Company, advised the large gathering of farmers to urge extensive chemical research by the United States Government as a means of helping the farmers of the Nation through finding uses for farm products and farm waste materials for industrial purposes. "These problems are nationwide in their scope," said Dr. Stine, "and call for a combination of the best scientific brains that can be made for their consideration," and further:

"When an agricultural product becomes a factory raw material and begins to receive the attention of the chemist, an effort is made to find uses for all the by-products which may develop in the manufacture of the main product." Dr. Stine cited the utilization of cotton as "a nice example of this," saying:

"Cottonseed itself is a pretty good fertilizer, since it contains about 3 per cent of fixed nitrogen, about 1 per cent of phosphoric acid and around 1.25 per cent of potash. In a cotton crop having a value of around \$1,500,000,000, the cottonseed produced as a by-product has a value of over \$200,000,000. It has been estimated that the chemist has added \$10 per bale to the value of the cotton crop. This illustrates the im-

portance of the uses which have been developed for what was originally merely a by-product of the growth of cotton fiber for the textile trade. Oil, hulls, cottonseed, meal and cake, and the hairs which are shaved off the cottonseed itself, are all very valuable materials."

Dr. Stine further detailed the great value of chemical compounds prepared from cellulose, as well as the woven textile itself, and of plastic compounds from cellulose derivatives, while rayon, "the first fiber prepared by man," is manufactured from cellulose, both from wood and from cotton. Glycerine for du Pont nitroglycerine, he added, comes either from sugar by fermentation or from animal products as a by-product of the manufacture of soaps from fats, and the company has manufactured a great many tons of camphor from turpentine, and consumes rosin in the manufacture of various chemical compounds.

"Chemical research of a fundamental nature, carried out over an extended period in Government laboratories," said Dr. Stine, "would be not only likely, but certain to contribute findings of the greatest value in the solution of vast and complex problems."

Ballenger, Texas, will vote January 15 on bonds in the amount of \$187,000, including \$110,000 for water works, \$35,000 for erecting a city hall and \$42,000 for retiring outstanding paving warrants.



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FINANCIAL NEWS

Bond Issues Proposed

Ala., Brighton, Bessemer—Indebtedness—City voted \$13,000 bonds.

Ala., Montgomery—City voted \$1,800,000 bonds: \$650,000, sewer; \$500,000, water works; \$150,000, fire dept.; \$500,000, refunding floating debts; W. A. Gunter, Jr., Pres., Bd. of Commrs. 12-6

Ark., Eureka Springs—Municipal Auditorium—City, C. A. Fuller, Mayor, voted \$15,000 6% \$500 denom. bonds, plans selling. 11-29

Fla., Dunnedin—Refunding—City, W. Lovett Douglas, Mgr., receives bids Jan. 22 for \$106,000 6% bonds.

Fla., Fort Myers—Paving—City receives bids Jan. 11 for \$50,000 bonds.

Fla., Jacksonville—City, M. W. Bishop, Sec., votes Feb. 19 on \$2,100,000 bonds: \$1,500,000, sewerage and drainage work; \$300,000, city's portion on street paving; \$300,000, street widening, etc. 11-15

Fla., Tampa—Hillsborough County School Dist. No. 4 defeated \$431,000 bond issue. 12-13

Fla., Tampa—Refunding—Hillsborough County Commrs. plan \$142,000 5% bond sale.

Ky., Cynthiana—City Building—City, John M. Cromwell, Mayor, receives bids Jan. 22 for \$50,000 4½% \$500 denom. bonds. 11-29

Ky., Owensboro—Bd. of Education may call election Feb. 23 on \$200,000 bonds; Wm. B. Ittner, School Archt., St. Louis.

La., Cameron—Road—Cameron Parish plans \$20,000 bond issue.

La., Lake Charles—Sewer—City votes Feb. 5 on \$400,000 bonds. 11-15

La., Laplace—St. John the Baptist Parish School Bd., J. O. Montegut, Supt., call election in Feb. on \$150,000 bonds.

La., Many—Sewer—City votes Jan. 29 on \$50,000, not to exceed 6% bonds; Swanson-McGraw, Inc., Consit. Engrs., Balter Bldg., New Orleans.

Maryland—Governor Albert C. Ritchie, Annapolis, recommended \$5,800,000 State loan: \$3,300,000 institutional and certain departmental purposes; \$1,500,000, post roads, to match like amount of Federal aid; \$1,000,000, bridges.

Miss., Clarksdale—Hospital—City voted \$15,000 bonds. 11-29

Miss., Tupelo—School—City voted \$50,000 bonds. 12-20

Mo., Poplar Bluff—Water—City votes in Feb. on bonds. 12-27

Mo., Wellsville—Water—City plans voting in spring on \$80,000 bonds.

N. C., Asheville—City receives bids Jan. 15 for \$2,590,000 bonds: \$1,232,000, water improvement; \$890,000, improvement; \$250,000, city hall; \$175,000, city market; \$43,000, sewer.

N. C., Burlington—City receives bids Jan. 14 for \$171,000 \$1000 denom., not to exceed 6% bonds: \$146,000, water, sewer; \$25,000, street.

N. C., Concord—School—Cabarrus County Commrs. plan \$25,000 bond issue.

N. C., Gastonia—Water—City, W. L. Walters, Clk., receives bids Jan. 15 for \$225,000 \$100 denom., not to exceed 6% bonds.

N. C., Wilmington—Public Improvement—City, J. E. Thompson, Commr. of Finance, considering \$250,000 \$1000 denom. bond sale. 12-20

Okla., Anadarko—City Council may issue \$110,000 bonds for water works, city hall, light plant and sewer refunding.

Okla., Fargo—Water—Town Bd. will call bond election.

Okla., Tonkawa—Electric Plant—City votes soon on bonds.

S. C., Rock Hill—Water—City voted \$300,000 bonds; plans selling bonds. 12-13

Tenn., Jasper—School—Marion County votes Mar. 12 on \$225,000 5% bonds; County Court plans selling bonds.

Tenn., Knoxville—Knox County considering \$400,000 bond issue for bridges: \$250,000, McBee's Ferry Bridge; \$150,000, Solway's Ferry Bridge.

Tenn., Memphis—Revenue—City, D. C. Miller, Clk., receives bids Jan. 22 for \$1,250,000, 4½ to 5½%, \$1,000 denom. of \$2,250,000 notes. 1-3

Tenn., Somerville—School—Fayette County Court, W. M. Boyd, Atty., authorized \$250,000 bond issue.

Tex., Brownsville—San Benito-Point Isabel Navigation Dist., Cameron County, voted \$500,000 bonds. 11-29

Tex., Collett—Water—City votes Jan. 15 on \$35,000 bonds.

Tex., Crosbyton—Road—Crosby County votes Jan. 12 on bonds.

Tex., Dalhart—Road—Dallam County Commrs. Court, Dalhart, Hartley County Commrs. Court, Channing, Sherman County Commrs. Court, Stratford, considering \$1,738,000 bond election.

Tex., Decatur—Road—Wise County, Road Dist. No. 4, voted \$451,000 bonds. 12-27

Tex., Donna—Dist. Sec., J. E. Wier, receives bids Jan. 21 for \$300,000 5% Independent School Dist. bonds.

Tex., Mount Calm—Water—City voted \$40,000 bonds. 12-13

Tex., Port Arthur—Street—City, J. P. Logan, Mayor, considering \$450,000 bond issue.

Tex., Rankin—Road—Upton County plans bond election in Jan.

Tex., San Benito—Public Improvement—City, J. Scott Brown, Mayor, plans \$190,000 bond issue. 1-3

Tex., Valley Mills—Sewer—City votes Jan. 23 on \$30,000 bonds.

Tex., Van Horn—Road—Culberson County votes Jan. 12 on \$75,000 5½% bonds.

Tex., Waco—Road—McLennan County Commrs. Court, W. T. Lockwood, Auditor, plans selling during 1929, \$1,150,000 4½% bonds recently voted; Manton Hannah, County Engr. 1-3

Tex., Welmar—Water—City, Mayor Holt, votes Feb. 5 on \$50,000 bonds.

Tex., West University Place, Houston—Funding—City, H. B. Schlesinger, Mayor, voted \$326,725 5½% bonds. 12-27

Va., Portsmouth—City, Frank C. Hanrahan, Mgr., plans selling \$300,000 notes.

Bond Issues Sold

Ala., Homewood, Birmingham—Public Improvement—City sold \$103,000 6% bonds to Caldwell & Co., Nashville, Tenn.

Ark., Little Rock—Toll Bridges—State Note Bd., Ralph Koonce, State Treas., sold \$500,000 5% short term notes, jointly, to American Southern Trust Co. and M. W. Elkins & Co., both Little Rock, \$500,100. 12-13

Fla., Tampa—Hillsborough County Bd. of Public Instruction, W. P. Snipes, Sec., sold \$15,000 6% \$500 denom. Special Tax School Dist. No. 9 bonds to Hillsboro State Bank, Plant City. 12-13

La., Gretna—Sewage, Drainage—City, Mayor and Bd. of Aldermen, sold \$300,000 5% \$1000 and \$500 denom. bonds to Hibernia Securities Co., New Orleans, \$6300 premium and accrued interest. 12-20

La., New Orleans—R. W. Pressprich & Co., Eldredge & Co., both New York City, and Hibernia Securities Co., Inc., New Orleans, offering \$1,748,000 4% permanent paving and temporary surfacing certificates recently sold to above firms and following New Orleans banks: American Bank & Trust Co., New Orleans Securities Co., Whitney-Central National Bank, Hibernia Securities Co., Inc., Canal Bank & Trust Co., and Interstate Trust and Banking Co. 12-6

La., Benton—John Nuveen & Co., Chicago,

Ill., have purchased \$50,000 Bossier Parish School Dist. No. 26 bonds.

Miss., Winona—Road—Montgomery County, Henry Hart, Road Commr., sold \$250,000 5½% bonds, jointly, to Whitney Central Bank and Trust Co., and Caldwell & Co., Nashville, Tenn., \$3,950 premium. 12-13

Mo., St. Charles—Sewer—City sold \$50,000 4½% bonds to Mississippi Valley Trust Co., St. Louis, \$50,010.

N. C., Greensboro—City, P. C. Painter, Mgr., sold \$1,950,000 bonds to syndicate headed by Caldwell & Co., Nashville, Tenn., \$660 premium: \$1,000,000, 5%, street; \$950,000, 4½%, grade crossing elimination, water, sewer, etc. 12-27

N. C., Rocky Mount—Water, Electric Light City, L. B. Aycock, Clk., sold \$225,000 4½% bonds to Braun, Bosworth & Co., Detroit, Mich., \$769 premium. 12-20

Okla., Davidson—City sold \$46,000 6% bonds to First State Bank, Davidson, at par: \$23,000, water; \$23,000, sanitary sewer. 12-13

Okla., Tulsa—City Comm. sold \$175,000 4½ and 5% bonds to Prescott, Wright, Snider Co., Kansas City, Mo.: \$150,000, fire station and equipment; \$25,000, Katy underpass. 12-20

S. C., Columbia—Highway—State Treas. sold \$700,000 4½% Capital Highway Dist.

(Continued on page 128)

"Floods in the Valley of the Mississippi A National Calamity What Should Be Done About It"

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FINANCIAL NEWS

(Continued from page 126)

bonds, jointly, to Guaranty Co. of New York, New York City, Peoples Securities Co., Charleston, S. C., and Peoples Bank, Columbia, at \$702,407. 12-27

S. C., Spartanburg—J. H. Hillsman & Co., Inc., and Citizens & Southern Co., both Atlanta, Ga., purchased \$20,000 6% Spartanburg County Valley Falls School Dist. No. 37 bonds. 12-27

Tex., McCamey—McCamey Independent School Dist., Tryon Lewis, Pres., sold \$150,000, 6% \$1000 denom. bonds to D. E. Dunne & Co., Wichita, Kan., par, accrued interest and expense. 12-13

Tex., Port Neches—Water, Sewer—City Council sold \$125,000 bonds to Mercantile Trust & Savings Co., Dallas, par and accrued interest. Lately noted rejected bids. 12-27

Tex., Sinton—Road—San Patricio County sold \$150,000 Aransas Pass-Ingleside Dist. bonds to Weil, Roth & Irving Co., Cincinnati, Ohio. 12-27

Building and Loan Associations

Ky., Pikeville—First Pikeville Building & Loan Assn., capital \$200,000, chartered; J. A. Scott, G. W. Gray, W. C. Yost.

Mo., Columbia—Columbia Loan Co., Inc., capital \$25,000, chartered; D. A. Wilkerson, P. A. Adams, L. T. Proctor.

New Financial Corporations

Fla., Jacksonville—Bolles Investment Co., capital \$30,000, chartered; H. T. Pegues, 2150 Oak St.

Fla., Live Oak—Solar Securities Co., capital \$100,000, chartered; H. B. Thomas, D. D. Felix, Roscoe Burnstetter.

Fla., Palm Beach—Southland Finance Co. chartered; R. L. Earnest, 349 Nottingham Blvd.

Ky., Louisville—Consolidated Securities Co., capital \$250,000, incorporated; C. C. Hieatt, H. J. Scheirich, both 229 S. Fifth St.

La., Denham Springs—People's Farm Finance Co., Inc., capital \$10,000, chartered; H. P. Mitchell, Pres., Hammond; John W. Noblet, Sec., Denham Springs.

Md., Baltimore—Republic Securities Corp., Calvert Bldg., capital \$10,000, chartered; George Carr.

Md., Baltimore—Barry, Grove & Co., investment bankers, 211 Keyser Bldg., opened; Jos. T. Barry, Herbert R. Grove.

Md., Baltimore—Feast-James Corporation, 2745 Maryland Ave., chartered; Harry C. L. Feast; investment and brokerage.

Mo., St. Louis—Zennelman-Fixman Mortgage Co., authorized capital \$100,000, chartered; Simon Zennelman, Harry Gershenson, Atty., 825 Paul Brown Bldg.

N. C., Charlotte—Carolina Investment Co., capital \$250,000, chartered; John Paul Lucas, L. H. Ashbury, R. L. Goode.

Okl., Oklahoma City—South Oklahoma National Bank, capital \$100,000, organized; Leon G. Voorhees, correspondent, 400 W. Tenth St.

Okl., Tulsa—Tulsa Industrial Finance Corp., capital \$1,100,000, plans organizing; W. G. Skelly, Pres. Chamber of Commerce, interested.

Tenn., Memphis—C. E. McFarland, 291 Angelus St., Pres., and H. W. Hurt, 774 W. Drive, Cashier, of commercial bank to be opened soon at 150 Madison Ave., \$50,000 capital.

Tex., Kermit—Kermit National Bank, capital \$25,000, organized; Rueben R. R. Cook, 923 Lamar St., Wichita Falls, correspondent.

Tex., Waxahachie—Republic Bank & Trust Co., capital \$100,000, organized; T. H. Hardin, Pres.; C. M. Hall, V.-P., and Cashier; acquired First State Bank & Trust Co.

Tex., Wharton—Security Bank and Trust Co., opened; A. A. Mullins, Pres.; R. J. Wright, V.-P.; L. F. Worthington, Cashier.

Louisville Home Building Assn., C. D. Harris, Pres., Louisville, Ky., plans increasing capital, \$3,000,000 to \$5,000,000.

Farmers Bank of Equity, A. C. Webb, Pres., Dry Ridge, Ky., plans changing name to Farmers Bank & Trust Co. and increasing capital, \$45,000 to \$50,000.

Merchants & Mechanics Loan and Building Assn., Covington, Ky., plans increasing capital, \$2,000,000 to \$2,500,000.

Merchants & Mechanics Savings Bank, John E. Wales, Pres., Norfolk, Va., plans increasing maximum authorized capital, \$100,000 to \$500,000.

First National Bank, J. F. Campbell, Pres., and San Saba National Bank, J. W. Gibbons, Pres., both San Saba, Tex., plan merging as San Saba National Bank, \$75,000 capital.

First State Bank, Jesse Morgan, Pres., Vicco, Ky., plans changing name to First State Bank and increasing capital, \$15,000 to \$25,000.

Peoples Savings Bank, W. E. Lenon, Chmn. of Bd., Little Rock, Ark., changed name to Peoples Trust Co.; will enlarge capital.

Union Bank & Trust Co., G. R. Christie, Pres., and Cleburne State Bank, M. C. Parrish, Pres., all Cleburne, Tex., consolidated as Cleburne State Bank, \$100,000 capital.

First National Bank, S. H. Simpson, Pres., Hallettsville, Tex., increased capital, \$60,000 to \$100,000.

Logan County Bank, L. Whitley, Pres., Lundale, W. Va., merged with Bank of Logan & Trust Co., G. W. Raikes, Pres., Logan, W. Va.; Lloyd Whitley, Executive Head of enlarged bank.

National Bank of Rocky Mount, capital \$200,000, and First National Bank, capital \$150,000, Geo. L. Wimberly, Pres., all Rocky Mount, N. C., merged as First National Bank of Rocky Mount, capital \$262,500.

Guaranty Bank & Trust Co., L. D. Caldwell, Pres., and E. Cahn, Banker, E. Cahn, Pres., all Meridian, Miss., merged as Cahn Bank & Trust Co., Cahn Bank Bldg., E. Cahn, Pres.; C. M. Lawrence, Cashier.

First Securities Co., J. P. Hoskins, Chattanooga, Tenn., plans increasing capital, \$200,000 to \$900,000.

Lamar State Bank & Trust Co., H. L. Baker, Pres., merged with First National Bank, B. F. Scott, Pres., all Paris, Tex.; combined resources \$4,500,000.

Trade Literature

Building.—The term "building products," as referring to reinforcing materials for fire-safe construction, as distinguished from staple building supplies such as sand, stone, cement, brick and tile, is said by the Hausman Steel Company, Toledo, Ohio, in a pamphlet, "correctly to describe its business." The company maintains a warehouse stock in Toledo and Columbus, to provide immediate deliveries on all sizes of reinforcing bars, cut and bent to detail; metal lath, wire mesh and other similar material, and also represents fire-safe material concerns. The Hausman Steel Company until recently was known as the Building Products Company.

Boilers.—In a booklet, catalog 28, on water tube boilers, the Springfield Boiler Company, Springfield, Ill., describes Springfield boilers as all steel, sectional and of the horizontal cross drum type, the three-inch diameter tubes in the main bank sloping 15 degrees and arranged in groups of four. Springfield water walls also are described and the booklet carries many tables, blueprints and illustrations.

Bearings.—"Not more lead, but better alloyed bronze" reads a legend on the cover page of a booklet, "Common Sense About Bearings," written by Dr. H. M. Rees and issued by Bearium Bearings, Inc., Boston, Mass., and Rochester, N. Y. A general consideration of bearings, their function, types, materials and the causes underlying demand for better bearings forms part of the reading material, with tables, charts, analyses, etc.

Steel.—An attractive picture of a great suspension bridge, with an airplane flying over it, adorns the 1929 calendar of the American Institute of Steel Construction, Inc., New York City. "Steel insures strength and security" is the message the calendar carries.

Calendars.—The debut of 1929 has been marked by distribution of handsome and useful calendars by the Reading Iron Company, Reading, Pa.; R. D. Cole Manufacturing Company, Newnan, Ga., and the Gallion Iron Works and Manufacturing Company, Gallion, Ohio. All are appropriately illustrated.

Electrical.—As its greeting for 1929, the Lee Electric Company, Baltimore, has issued an attractive calendar, the page for each month carrying a catchy line. "Fill those empty sockets," says one month, and, "More electrical appliances, less work," says another. Still another month advises the protection of eyes by good light.

Concrete.—With a border showing concrete art stone made with Universal cement, an attractive calendar has been issued by the Universal Portland Cement Company, subsidiary of the United States Steel Corporation, New York, Chicago and other cities. The borders for several months are in different colors, showing possibilities in concrete art stone.

Construction.—Several of the many structural projects completed by the A. A. Lane Construction Company, Cleveland, Ohio, are described and pictured in a folder, "Automotive Buildings," the third in a series on better building bulletins which it is issuing. Several "Lanebilt" garages are shown, with explanation of the advantages of the Lane company's work and facilities.

Railroads.—Following the "Fair of the Iron Horse" which it held at Baltimore in 1927, the Baltimore & Ohio Railroad issues for 1929 an artistic calendar of great appeal. A picture of the Lincoln Memorial at Washington adorns the main sheet, and the railroad well says that "it should be the ambition of every man and woman, every boy and girl, to see Washington."

A Southern Dairies Feature.

With its December issue, "The Silver Cow," house organ of Southern Dairies, headquarters in Washington, D. C., observed its second anniversary. The magazine was instituted, says an editorial, "to disseminate information about Southern Dairies clearly and truthfully and to establish a better understanding and esprit de corps among the hundreds of persons in the organization," and both objects seem to have been early attained.

Mineral Resources on a Railroad.

Interesting information designed to show that the territory served by the Missouri Pacific Railroad is rich in mineral resources, and expressed desire by the company to be of service to anyone seeking details on the subject are set forth in a booklet, "Mineral Resources Along the Missouri Pacific Railroad." Copies of the booklet, with further details as to the locations mentioned, or information on other minerals, can be obtained from the industrial department of the road at St. Louis.

National Farmers Conference Called.

By J. S. WANNAMAKER, President, American Cotton Association.

I have issued a call for a national conference of farmers to be held in Washington on March 5, for the purpose of agreeing upon an adequate and workable plan of national farm relief. It is the judgment of many farmers' associations, organizations and individual farmers and friendly allied lines, nationwide, that the only way by which all of American farming interests can arrive at any adequate workable plan of farm relief that will secure the approval of the general public and of Congress, and the only way through which American agriculture can secure the necessary action at a special session of Congress to enable the bankrupt American farmer to rehabilitate, is through a nationwide conference agreeing upon a plan for farm relief, presenting same to the administration and Congress.

The conference is to form a permanent organization, with representatives whose duty it will be to remain in Washington until the necessary relief to American agriculture has been secured.

The conference, to be successful, must be composed entirely of men with practical business ideas, whose controlling business interest is the ownership and operation of farm lands. The conference will be strictly non-partisan in politics. It will be representative of much of America's most important agricultural products, also livestock and animal products, and of various geographical sections of the United States. It will include representatives of every plan of farm relief in which any substantial number of farmers have faith.

Business organizations, political leaders, government departments and other classes of men interested in farm relief, but whose controlling line of business is not farming, will be requested to co-operate. American farmers must learn to direct their own business, and they must learn to reconcile differences in farm relief plans of different important groups of farmers.

The first thing the farmers must do to achieve success is to prove their case: (1) That there is serious farm distress; (2) what is the approximate amount in dollars by which net returns of American farmers, as a whole, must be increased to put them on a fair financial basis; (3) what are the causes of farm distress; (4) what are the legislative cures for farm distress, and, (5) how can such legislation be secured at the earliest possible date?

That the American farmers, taken as a whole, are in serious distress, is indicated by the fact that the gross receipts received by all the 6,400,000 farms of the United States for all their farm products equal less than \$6 per day, per average size farm of 145 acres land, of which 61 acres are plow lands. Out of these gross proceeds, the farmer must pay: Interest on his mortgages and crop borrowings; taxes on his lands, buildings, animals and equipment; insurance on buildings, equipment and supplies; wages to hired labor; cost of materials and supplies; all other charges. Out of what little is left of \$6 per day, the farmer must secure his own wages and wages for those members of his family who work on the farm. Such a situation should be conclusive that there is serious farm distress. One may notice that I have not allowed the farmer anything for interest on whatever is the value of all his real and personal property, in excess of the mortgages thereon.

My comparisons of farmers' financial results will be made as between the year 1920, the first year of farm distress, and the years subsequent thereto. These comparisons should prove that the farm distress has been the rule in every year since 1920. The gross proceeds received by all the American

farmers for all their farm products have in each year since 1920 run from \$1,800,000,000 to \$4,500,000,000 less than in the year 1920. In order to put American farmers on a reasonably sound financial basis, their net returns must be increased to the extent of about \$6,000,000,000 per year.

The conference has not been called with any pre-arranged program. There are differences of opinion among farmer groups as to what kind of Congressional legislation is necessary to bring prompt and adequate relief. These differences of opinion will be reconciled just as they were in the National Farmers' Conference of 1920.

The tariff plan will reduce the exportable surpluses of the McNary-Haugen crops by greatly increasing the home consumption of those products. Thus, if duties are made protective on animals, hides, meats, butter, cheese, poultry, etc., our excess grain surpluses will be used up in the United States in producing these imports at home. And if duties are made protective on hemp, flax and other fibres, the excessive portions of our cotton surplus will be used up in the United States in substitution for the fibres we now import.

By reducing our competitive agricultural imports to the extent that our agricultural exports will exceed our agricultural imports from \$500,000,000 to \$1,000,000,000 per year, there will be no such excessive exportable surpluses of wheat, corn and cotton as cannot be handled by a reasonable modification of the McNary-Haugen bill.

At a farmers conference, it will be readily seen by the delegates that there is one common ground on which all American farmers depend, and that is: The number of acres of American farm lands that can be profitably employed for our home makers and for exports at a profit over the American cost of production. The farmers who believe in co-operative marketing as the principal or only hope of farm relief need also to be fully represented at the proposed farmers' conference.

Promoting the Dairy Industry.

Fulton, Mo., January 5—[Special.]—The Chamber of Commerce of Fulton wants a dairy products plant of some kind, and realizing there is not enough milk being produced in its territory to provide such an institution with the necessary raw product, it has adopted a novel way to impress the idea on the farmers, and at the same time educate them in the value of milk production. Meetings are held in Fulton at which at least one purebred cow and one purebred heifer are given away, to interest the farmers in dairying, and the "Dairy Day" meetings have shown fine results. Also, the Chamber of Commerce has brought to these meetings men well versed in the dairy business to talk to the audiences, and the plan has brought to Fulton many farmers who seldom or never had been in the town before. A fund has been subscribed to continue the meetings and the directors of the Chamber feel certain the groundwork will soon be built to bring about co-operation between farmers and the business interests and make certain the establishment of a milk products plant.

\$2,500,000 Texas County Road Bonds Proposed.

Liberty, Tex.—A good roads committee of which Noble Garvey, Cleveland, Texas, is chairman, is promoting a bond issue of \$2,250,000 for constructing roads in Liberty County. Representative citizens from all sections of the county interested in the proposal recently met at the office of County Judge C. R. Wilson here to promote plans for the issue. It is understood that the State Highway Commission is willing to appropriate a large amount of money to supplement county funds for road construction in the county.

Annual Report of the Condition of the

CITIZENS SAVINGS BANK

OF BALTIMORE CITY

Baltimore and Eutaw Streets

IN THE STATE OF MARYLAND at the close of business December 31st, 1928, in conformity with Section 36 of the Banking Law.

Funds on hand December 31st, 1927.....	\$8,630,394.01
Received from Depositors during 1928...	3,954,773.30
Received interest and dividends on stocks, bonds, loans, etc., during 1928.....	457,222.53
TOTAL	\$13,042,389.84

Paid Depositors during 1928, including interest	\$4,121,238.07
Paid expenses during 1928.....	43,876.16
Paid taxes during 1928.....	23,309.59
Paid premiums, etc., during 1928.....	3,491.82
Funds on hand December 31st, 1928.....	8,850,474.20
TOTAL	\$13,042,389.84

ASSETS

(Book Value)

Bonds and Stocks owned.....	\$4,426,249.98
(Par Value \$4,636,725)	
Loans on Collateral.....	363,780.00
Loans on Mortgages.....	3,751,800.00
Real Estate (Bank Building).....	25,000.00
Other Real Estate owned and Ground Rents	34,500.00
Perpetual Insurance Deposits.....	1,500.00
Cash on hand and in Banks and Trust Companies	247,644.22
TOTAL	\$8,850,474.20

LIABILITIES

Due Depositors (Including interest to January 1st, 1929).....	\$8,044,669.67
Guarantee Fund and Undivided Surplus..	805,804.53
TOTAL	\$8,850,474.20

Accounts open December 31st, 1927.....	14,048
Accounts opened during 1928.....	2,608
Accounts closed during 1928.....	1,655
Accounts existing December 31st, 1928..	15,001

EDWIN A. SPILMAN, President. GEORGE H. KUHST, Treasurer.

Baltimore, January 2nd, 1929.

At the request of the Board of Directors of the Citizens Savings Bank of Baltimore City, we, the undersigned, have audited the above report and have found it correct; we have counted all the securities named therein and have found them on hand as stated.

Owen Daly, Eugene G. Grady, Wm. G. Baker, Jr.,
Owen Daly & Co., Vice-President, Baker, Watts & Co.,
Bankers Western National Bank Bankers

BOARD OF DIRECTORS

William Marriott Harry M. Benzinger Theo. F. Krug
Henry D. Dreyer Henry Suchting George W. Hemmeter
George H. Kuhst George E. Muhly John Zies
Edmund C. Heyn Harry F. Lindeman Edwin A. Spilman

One Hundred and Eleventh annual report of the condition of The Savings Bank of Baltimore

Charles and Baltimore Streets

Baltimore, in the State of Maryland

At the close of business December 31, 1928, in conformity with Section 36 of the Banking Laws.

Funds on hand December 31st, 1927.....	\$72,083,229.62
Received from Depositors during 1928.....	19,903,420.30
Received interest on Investments, Loans, etc., during 1928.....	3,742,842.72
	\$95,729,492.64
Paid Depositors during 1928, including interest..	\$18,519,098.21
Paid Expenses during 1928.....	183,650.26
Paid Taxes during 1928.....	192,479.47
FUNDS ON HAND DECEMBER 31st, 1928....	76,834,264.70
	\$95,729,492.64

ASSETS

(Book Value)

Investments—	
U. S. Liberty Loan and Treasury Bonds.....	\$10,364,521.64
Federal Farm Loan Bonds....	1,999,250.00
Canadian Government and Provincial Bonds.....	841,975.00
Railroad Bonds.....	19,484,743.40
Public Utility Bonds.....	20,601,257.60
Miscellaneous Bonds.....	1,038,063.77
(Par value \$57,633,000.)	\$54,329,811.41
Collateral Loans.....	799,716.36
Mortgage Loans.....	19,007,898.04
Banking House.....	300,000.00
Other Real Estate owned.....	45,000.00
Cash on hand and in banks.....	2,351,838.89
Total	\$76,834,264.70

LIABILITIES

Due Depositors.....	\$69,679,555.32
Guarantee Fund.....	5,000,000.00
Undivided Surplus (chargeable with three months' accrued interest on deposits, payable April 1, 1929).....	2,154,709.38
Total	\$76,834,264.70
Accounts opened during 1928.....	7,315
Accounts closed during 1928.....	6,486
Accounts open December 31st, 1928..	61,688

AUSTIN McLANAHAN,
President.THOMAS CRADOCK,
Treasurer.

Baltimore, January 1, 1929.

We, the undersigned, have audited the above report and found it correct. We have also counted all the securities named therein and found them on hand as stated.

Wm. J. Casey, William Ingle, L. S. Zimmerman,
President Continental Trust Co. Formerly President Maryland Trust Co. Baltimore Trust Co. Trust Company.
Wm. G. Baker, Jas. Carey Martien,
Baker, Watts Co. Wm. Martien & Co., Inc.

OFFICERS

AUSTIN McLANAHAN, Pres. WM. H. CONKLING, Chairman.
S. STERETT McKIM, Vice-Pres. THOMAS CRADOCK, Treas.
JAMES K. STEUART, Assistant Treasurer.

DIRECTORS

William H. Conkling S. Sterett McKim Frederick W. Wood
Blanchard Randall W. Kennedy Cromwell Austin McLanahan
Henry G. Hilken Alfred R. Riggs Charles D. Emmons
Waldo Newcomer John B. H. Dunn Herbert A. Wagner
Harry Fahnestock Geo. Weems Williams George M. Shriver
Norman James Gustavus Ober, Jr. Howard Baetjer
William H. Matthal William W. Cator Francis E. Waters
William B. Oliver James A. Gary, Jr. R. Howard Bland
Thomas Cradock

Hopkins Place Savings Bank

Hopkins Place at Baltimore St.

Annual Report of the condition of the Hopkins Place Savings Bank of Baltimore, in the State of Maryland, at the close of business December 31, 1928, in conformity with Section 36 of the Banking Law.

Funds on hand December 31, 1927..... \$18,656,306.25
Received from Depositors during 1928.... 7,765,951.63
Received Interest and Dividends..... 1,054,887.84

Total \$27,477,145.72

Paid Depositors during 1928, including interest \$6,687,938.47
Paid Expenses during 1928..... 81,578.48
Paid Taxes during 1928..... 46,853.00
Ledger cost of Bonds reduced..... 43,388.68
Funds on hand December 31, 1928..... 20,617,387.09

Total \$27,477,145.72

ASSETS

(Book Value)

Bonds and Stocks owned (par value),
\$11,444,050.00 \$10,700,375.00
Loans on Collaterals..... 730,952.31
Loans on Mortgages..... 8,291,468.48
Bank Building..... 100,000.00
Ground Rents and Real Estate..... 68,938.66
Cash on hand and in Banks..... 725,652.64

Total \$20,617,387.09

LIABILITIES

Amount due Depositors..... \$19,475,418.27
Guarantee Fund..... 800,000.00
Undivided Surplus chargeable with three months' interest on deposits payable April 1, 1929, at 4½% per annum..... 341,968.82

Total \$20,617,387.09

Accounts open December 31, 1927.... 26,304
Accounts opened during 1928..... 2,825
Accounts closed during 1928..... 2,388
Accounts open December 31, 1928.... 26,741

ROBERT M. ROTHER
President.

JOHN W. REINHART
Treasurer.

The undersigned have audited the above report, examined all the securities named therein, and found them on hand as stated, January 3, 1929.

S. Frank Bennett,
President, Benj. F. Bennett
Building Co.
Jesse A. Davis,
Sales agent, Bethlehem Steel
Company.

Henry S. King,
Retired Banker.

John P. Lauber,
President, Central Fire
Insurance Co.

Horatio L. Whitridge,
J. S. Wilson, Jr., & Co.

OFFICERS

E. Stanley Gary, Chairman of the Board.
Robert M. Rother, President.
John L. Hildebrandt, Vice-President.
John W. Reinhart, Treasurer.
William F. Mahon, Assistant Treasurer.
Carlyle Barton, Attorney.

DIRECTORS

Henry S. King,
Retired Banker.
E. Stanley Gary, of
Jas. S. Gary & Son,
cotton manufacturers.
J. Wm. Middendorf,
Banker.
Morris Whitridge,
of Whitridge, White & Co.,
commission merchants.
Robert M. Rother,
President.
Summerfield Baldwin, Jr.,
Woodward, Baldwin & Co.,
commission merchants.
Henry F. Baker,
Retired Banker.
Daniel B. Miller,
of Daniel Miller Co.,
dry goods and notions.
Douglas Gorman,
President, Cumberland
Coal Co.
James B. Platt,
of Platt & Co., Inc.,
packers.
Carlyle Barton,
Niles, Barton, Morrow &
Yost, attorneys at law.
John L. Hildebrandt,
Vice-President.

Incorporated 1847

Annual Report of the Condition of the

EUTAW SAVINGS BANK of BALTIMORE

Southwest Corner Eutaw and Fayette Streets

In the State of Maryland, at the close of business December 31st, 1928, in conformity with Section 36 of the Banking Law.

Funds on hand December 31st, 1927..... \$49,216,027.02
Received from Depositors during 1928..... 14,827,713.43
Received Interest on Investments, Loans, etc., during 1928 2,522,736.79

\$66,566,478.14

Paid Depositors during 1928, including interest.. \$14,462,204.20
Paid Expenses during 1928, including Banking House Improvements 196,763.66
Paid Taxes during 1928..... 122,742.08
Paid Premiums during 1928..... 7,525.87

FUNDS ON HAND DEC. 31st, 1928..... 51,777,242.33

\$66,566,478.14

ASSETS

Investments— Par Value
U. S. Liberty Notes and Bonds.. \$10,150,000
County Bonds..... 331,500
Municipal Bonds..... 2,072,500
Railroad Bonds..... 9,132,000
Railroad Equipment Bonds..... 4,148,000
Public Utility Bonds..... 5,764,000
Miscellaneous Bonds 150,000

Investments par value..... \$31,748,000

Investments (book value)..... \$30,606,671.94
Mortgage Loans..... 19,434,915.67
Banking House..... 220,000.00
Other Real Estate..... 30,000.00
Ground Rents..... 30,000.00
Cash in Banks..... 1,455,654.72

Total \$51,777,242.33

LIABILITIES

Due Depositors (including interest to January 1, 1929)..... \$46,612,530.33
Guarantee Fund..... 2,500,000.00
Undivided Surplus..... 2,664,712.00

Total \$51,777,242.33

All investments are carried at or under par.

Accounts open December 31st, 1927..... 47,391
Accounts opened during the year..... 5,262
Accounts closed during the year..... 5,298
Accounts open December 31st 1928..... 47,355

Liberty Bonds held for Safekeeping..... \$361,050
EDWARD L. ROBINSON, F. P. WHITCRAFT, Jr.,
President. 2nd Vice-President and Treas.

BALTIMORE, January 1, 1929.

At the request of the Board of Directors of the EUTAW SAVINGS BANK OF BALTIMORE, we, the undersigned, have audited the above report and found it correct; we have also counted all the securities named therein, as well as all Liberty Bonds held for safekeeping, and found them on hand as stated.

Samuel K. Dennis, Albert G. Towers,
Chief Judge Supreme Bench of President Title Guarantee and
Baltimore City. Trust Co.

R. Walter Graham, Morton Samuels,
Comptroller of the City of President M. Samuels & Co.,
Baltimore. Inc.

Morton M. Prentiss, Robert S. Belknap,
President First National Bank Baltimore Manager National
City Co. of N. Y.

William Marriott,
Vice-President and Cashier Western National Bank.

DIRECTORS

WILLIAM A. MARBURG LOUIS B. KOHN
WALTER B. BROOKS FRANK G. EVANS
EDWARD L. ROBINSON WALTER HOPKINS
CHARLES E. RIEMAN EDGAR G. MILLER, Jr.
CHARLES ENGLAND PHILLIPS LEE GOLDSBOROUGH
EBEN B. HUNTING LEONARD L. GRIEF
JAMES L. SELLMAN JAMES M. EASTER
THOMAS B. GRESHAM FRANKLIN P. WHITCRAFT, Jr.
JOHN S. GIBBS, Jr. M. ERNEST JENKINS
RANDOLPH BARTON, Jr. JOHN P. LAUBER
HENRY D. HARLAN HENRY M. WARFIELD
F. HIGHLANDS BURNS EDWIN W. LEVERING, Jr.
MAXWELL C. BYERS

To Use Paper Pulp for Containers.

Early opening of the new plant of the Pulp Products Corporation, manufacturer of seamless containers, Washington, D. C., is announced by R. P. Johnston, secretary and treasurer of the concern and plant manager. Installation of the machinery, costing over \$50,000, is well under way, and the plant will represent an investment of over \$100,000, Mr. Johnston says.

Operating by the so-called Drake process, a device originated by Walter H. Drake of Cleveland, Ohio, the corporation will manufacture containers of many kinds, described as seamless and waterproof. These are made from pulp recovered from old newspapers and molded into various shapes by Drake machines. Among the varieties of articles produced are milk bottles, berry boxes, bobbins for spinning, flower pots, containers for explosives, containers for piston rings, toilet check valves and other articles. Another "exhibit" is an imitation loaf of bread for advertising purposes, and it is said other advertising devices also can be made. The process also is used in the manufacture of toys, that right being held by a concern at Buffalo, N. Y.

For recovery of the pulp, the corporation has installed on the second floor a paper beater from E. D. Jones, Pittsburgh, Pa.; weight, 14,000 pounds, and capacity of 500 pounds, with 30-horsepower motor, from A. G. Schoonmaker, New York City. From this, the pulp passes into two agitator tanks of 6250 pounds capacity, each, and then passes into tanks over the Drake machines for molding. The plant will start with two Drake units, each with 10 molds, said to be capable of turning out 20 different shapes or forms every 30 seconds. The production capacity is said to be 15,000,000 pieces a year, with expectation of installing other units to double that output.

The equipment also includes a compressor from the Chicago Pneumatic Tool Company, with capacity of 650 cubic feet at 70 pounds pressure. The drying room is of Celotex and will be supplied with steam from the boiler house.

The corporation is said to own the exclusive license for Maryland, Delaware and the District of Columbia, and to contemplate the erection of plants at Salisbury, Crisfield, Cambridge and Princess Anne, on the Maryland Eastern Shore, to supply berry boxes and other containers for that section, with larger plants at Wilmington, Del., and Baltimore. The officers are: President, R. Bruce Emerson of Emerson & Orme, automobile dealers; vice-president and general manager, E. R. Lacey; secretary and treasurer, R. P. Johnston, engineer; directors, the officers and Dr. Charles A. Hawley, Charles T. Clayton, lawyer; Captain Charles A. Blakely, United States Navy, all of Washington, and William D. Sharrett, Manassas, Va.

Marion Allen will open headquarters in Baltimore for the organization of a company with \$1,500,000 capital for operation in Maryland and Delaware.

33 Miles of Texas Road to Cost \$649,915.

Brownsville, Tex.—Contracts have been awarded by the Cameron County Commissioners' Court for constructing 33 miles of concrete road to cost \$649,915. Dodds & Wedergartner, Inc., San Benito, Tex., were awarded contract at \$348,556, for the construction of 18.4 miles and F. P. McElwrath, Harlingen, Tex., at \$301,359, for 14.6 miles.

\$800,000 Road Bonds Bring \$9,451 Premium.

Camden, S. C.—An \$800,000 road bond issue of Kershaw County has been sold at a premium of \$9,451 to J. H. Hillsman & Co., Atlanta; Stranahan, Harris & Oatis, Inc., Toledo, Ohio; McNear & Co., Chicago, and A. B. Leach & Co., New York. The bid was on an interest basis of 5 per cent.

Annual Report of the Condition of the

Provident Savings Bank OF BALTIMORE

S. W. COR. HOWARD & SARATOGA STS.

14 Places of Business

Open Until 9 P. M. Saturdays

In the State of Maryland, at the close of business December 31, 1928, in conformity with Section 36 of the Banking Law.

Funds on hand December 31, 1927.....	\$15,405,975.76
Received from Depositors during 1928.....	8,317,050.61
Received from Christmas Club.....	441,974.25
Received Premiums, etc., during 1928.....	18,982.85
Interest on Investments, Loans, etc., during 1928.....	819,824.13
	\$25,003,807.60

Paid Depositors during 1928, including interest.....	\$8,145,011.82
Paid Expenses during 1928.....	134,490.00
Paid Taxes during 1928.....	52,216.83
Payments on Christmas Club.....	427,997.33
Funds on hand December 31, 1928.....	16,244,091.62
	\$25,003,807.60

ASSETS

Bonds Owned.....	\$6,992,514.25
Collateral Loans.....	154,153.86
Adjusted Service Loans.....	6,082.00
Mortgages.....	7,960,383.93
Christmas Investments.....	96,373.97
Real Estate—Central Office and Branches.....	460,959.23
Cash on hand and in Banks.....	573,624.38
	\$16,244,091.62

LIABILITIES

Due Depositors.....	\$15,025,676.68
Due Christmas Savings Accounts.....	70,123.27
Reserved for Taxes.....	15,537.06
Guarantee Fund, and Undivided Surplus (chargeable, with three months' accrued interest on Deposits, payable April 1, 1929).....	1,132,754.61
	\$16,244,091.62

Accounts opened during 1928.....	17,676
Accounts closed during 1928.....	15,850
Accounts gained during 1928.....	1,826
Accounts open December 31, 1928.....	83,406

Christmas Savings Accounts (not included above) 14,331

CHARLES C. DUKE
President

WILLIAM J. HAACKE
Treasurer

The undersigned Directors have examined and verified the assets as set forth in the above statement.

LAWRASON RIGGS
JOHN WHITRIDGE
JOHN F. SYMINGTON

January 1, 1929.

OFFICERS

ELISHA H. PERKINS, Chairman of the Board	
CHARLES C. DUKE President	JAMES CAREY, JR. Vice-President
G. HERBERT BOEHM Vice-President	LEMUEL T. APPOLD Vice-President
OTTO V. YURSIK Vice-President	WILLIAM J. HAACKE Treasurer

DIRECTORS

JAMES CAREY, JR.	C. MORGAN MARSHALL
ELISHA H. PERKINS	W. GRAHAM BOWDOIN, JR.
J. THOMAS BENSON	JAMES M. MOTLEY
LAWRASON RIGGS	JOHN WHITRIDGE
ROBERT GARRETT	HENRY E. TREIDE
LEMUEL T. APPOLD	L. ALAN DILL
CHAS. E. FALCONER	JOHN F. SYMINGTON
G. HERBERT BOEHM	CHARLES C. DUKE

COUNSEL

SEMMES, BOWEN & SEMMES

Progress on \$400,000 Federal Reserve Bank.

Construction of the new \$400,000 building at Memphis, Tenn., for the Memphis Branch of the Federal Reserve Bank of St. Louis, is a little more than one-fourth complete, according to the H. G. Gilbertson Construction Co. of Memphis, general contractor for the structure. The following sub-contracts and contracts for material have been awarded:

Alarm system—Bankers Electric Protective Assn., Boston, Mass.
Caulking—Memphis branch of Chamberlin Metal Weatherstrip Co., Detroit, Mich.
Cork insulation—Armstrong Cork Co., Pittsburgh, Pa.
Double hung metal windows—New York branch of Campbell Metal Window Corp., Baltimore.
Electrical work—Fowler Electric Co., Memphis.
Elevator doors and kalamain doors—Thorp Fireproof Door Co., Minneapolis, Minn., through Akers & Co., Memphis.
Excavation—J. B. Scruggs & Son, Memphis.
Face brick—Manufacturers Brick Supply Co., Memphis.
Glass—Binswanger & Co., Memphis.
Granite—Cold Spring Granite Co., Cold Spring, Minn.
Hardware—DeSoto Hardware Co., Memphis.
Heating and plumbing—Hull Plumbing and Heating Co., Memphis.
Limestone—Christie Cut Stone Co., Memphis.
Magnolia cement and common brick—Fischer Lime and Cement Co., Memphis.
Marble—Candora Marble Co., Knoxville, Tenn.
Millwork—Enochs Lumber and Manufacturing Co., Jackson, Miss.
Ornamental iron and bronze—Flour City Ornamental Iron Co., Minneapolis.
Painting—G. W. Lewis, Memphis.
Partition block—Acme Brick Co., Memphis.
Plaster and lathing—A. G. Hopton, Memphis.
Portland cement—Penn-Dixie Portland Cement Co., Chattanooga, Tenn.
Reinforcing steel—Connors Steel Co., Birmingham, Ala.
Rolling steel doors—Kinnear Manufacturing Co., Columbus, Ohio, through Akers & Co., Memphis.
Roofing—Bartholomew Roofing Co., Memphis.
Rubber tile floor—U. S. Rubber Co., St. Louis, Mo.
Sand and gravel—Missouri Portland Cement Co., Memphis.
Setting stone and granite—John Kastner, Memphis.
Sheet metal—A. W. Burdick & Co., Memphis.
Steel casement windows—Crittall Casement Window Corp., Detroit.
Steel equipment—Jamestown Metal Equipment Co., Jamestown, N. Y., through A. R. Taylor Co., Memphis.
Steel stairs, sundry iron and window guards—The Logan Co., Louisville, Ky.

Terrazzo and tile—Southern Mosaic Co., Memphis.
Tests of cement and steel—Barrow-Agee Laboratories, Memphis.
Vault doors—Herring-Hall-Marvin Safe Co., Hamilton, Ohio.
Vault reinforcing steel—Consolidated Expanded Metal Co., Wheeling, W. Va.
Waterproofing—Western Waterproofing Co., St. Louis.

The building is 2 stories and basement, approximately 80 by 125 feet, of comparatively simple design. Mauran, Russell & Crowell of St. Louis are the architects and Jones & Furbringer of Memphis, associate architects. W. W. Huff of St. Louis is structural engineer.

Road District Votes \$293,000 Bonds.

Princess Anne, Va.—Citizens of Kempsville district of Princess Anne County have voted a bond issue of \$293,000 for constructing 30 miles of macadam roads in the district. The work will include 4.3 miles of Bayside road, 1 mile of Chesapeake Beach road, 2 miles of Ocean Park road, 1 mile of Diamond Spring road, 2 miles of Little Creek road, 2 miles of Holland Swamp road, 9 miles of Witch Duck-Euclid road, 3 miles of Gum Swamp road and 3 miles of Indian River road.

\$400,000 Addition for Lubbock Hotel.

Lubbock, Tex.—The Lubbock Hotel Operating Co., W. A. Myrick, Sr., president, plans to erect a \$400,000 annex to the Lubbock Hotel, which will provide 180 additional rooms and bath. Wyatt C. Hedrick, Inc., of Fort Worth, is the architect and construction is expected to begin within a few months.

R. A. Maynard, E. H. Moore and John Shoffner, all of Burlington, N. C., have incorporated the Tower Hosiery Mills with an authorized capital of \$100,000.



PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close January 15, 1929.

U. S. Engineer Sub-Office, Florence, Ala.—Sealed proposals will be received here until 11 A. M. January 15, 1929, and then opened, for sale of construction equipment and tools, including locomotive cranes, rock crushers, concrete mixers, revolving screens, etc. Further information on application.

Bids close January 23, 1929.

U. S. Engineer Office, 300 Custom House, Baltimore, Md. Sealed proposals will be received here until 2 P. M. January 23, 1929, and then opened for dredging approximately 48,000 cubic yards of material in Kent Island Narrows, Md. Further information on application.

Bids close February 9, 1929.

U. S. Engineer Office, Wilmington, N. C.—Sealed bids, in duplicate, will be received until 12 o'clock noon, February 9, 1929, and then publicly opened for furnishing all labor and materials and performing all work for dredging approximately 11,692,000 cubic yards, in Sections I and II of the Intracoastal Waterway from Beaufort to Cape Fear River, N. C. Information upon application.

Bids close January 21, 1929.

TREASURY DEPARTMENT, office of the Supervising Architect, Washington, D. C., December 21, 1928.—SEALED BIDS will be opened in this office at 3 P. M. January 21, 1929, for the construction of the U. S. Post Office at Newark, Del. Drawings and specifications, not exceeding six sets, may be obtained at this office, in the discretion of the Supervising Architect, by any satisfactory general contractor, and provided a deposit is made of \$15.00 for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. JAS. A. WETMORE, Acting Supervising Architect.

GENERAL INFORMATION

About Proposal Advertising in Manufacturers Record

PUBLICATION DAY: Thursday.

FORMS CLOSE: 10 A. M. Tuesday.

When too late to send copy by regular mail to reach us by 10 A. M. Tuesday, forward by night letter or air mail when possible.

THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

The rate is the same for both publications—35 cents a line each insertion.

Bids close February 15, 1929.

WAR DEPARTMENT, United States Engineer Office, Montgomery, Ala., Jan. 7, 1929. SEALED BIDS, in duplicate, will be received until 2 P. M. February 15, 1929, and then publicly opened for furnishing all labor and materials and performing all work for building houses, transferring and installing all machinery, piping, gallow frames, A frame, spud frames and spuds, for one 15-inch pipe-line dredge. Further information on application.

Bids close January 29, 1929.

SEALED BIDS, in triplicate, subject to the conditions contained herein, will be received by the U. S. Veterans' Bureau, Room 764, Arlington Building, Washington, D. C., until 11 A. M. January 29, 1929, and then publicly opened, for furnishing all labor and materials and performing all work for constructing an Acute Building, including roads, walks and drainage, at U. S. Veterans' Hospitals, North Little Rock, Arkansas. This work will include excavating, reinforced concrete construction, hollow tile, brick work, cast stone, marble work, floor and wall tile, iron work, steel sash, steel stairs, with slate treads; slate, metal and built-up roofing, metal lathing, plastering, stuccoing, carpentry, insect screens, painting, glazing, hardware, plumbing, heating, electrical work, electric elevator, and outside sewer, water, steam and electric distribution system. SEPARATE BIDS will be received for Concrete Chimney and Electric Elevator, all as set forth on bid form. Bids will be considered only from individuals, firms or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract and, in making awards, the records of bidders for expedition and satisfactory performance on contracts of similar character and magnitude will be carefully considered. At the discretion of the Director, drawings and specifications may be obtained upon application to the Construction Division, Room 764, Arlington Building, Washington, D. C. Deposit with application of a check or postal money order for \$25.00, payable to the TREASURER OF THE UNITED STATES, is required as security for safe return of the drawings and specifications within ten days after date of opening bids. FRANK T. HINES, Director. December 28, 1928.

Bids close January 15, 1929.

\$250,000.00 Public Improvement Bonds

Birmingham, Ala.
Sealed proposals will be received by the Commission of the City of Birmingham, Alabama until 12 o'clock noon of Tuesday, the 15th day of January, 1929, at the office of the City Clerk in the City Hall, in the City of Birmingham, Alabama, for the purchase of Two Hundred and Fifty Thousand Dollars (\$250,000.00), Public Improvement Bonds, dated February 1st, 1929, one-tenth of such issue to be redeemed each year after February 1st, 1929, such redemption to begin with Bond No. 1, said bonds bearing interest at the rate of 4%, 4½%, 4¾%, 4% or 5% per annum, payable semi-annually, February 1st and August 1st. Said bonds shall be of the denomination of \$1000.00 each, principal and interest being payable in gold coin at the Hanover National Bank, New York, N. Y.

THE COMMISSION WILL FURNISH TO THE PURCHASER THE OPINION OF MESSRS. THOMPSON, WOOD & HOFFMAN, ATTORNEYS AND COUNSELLORS-AT-LAW OF NEW YORK CITY, APPROVING THE LEGALITY AND VALIDITY OF SAID BONDS, AND A CERTIFIED COPY OF ALL PROCEEDINGS WILL BE FURNISHED SHOWING AUTHORITY TO ISSUE SAID BONDS.

Said bonds are secured by the full faith and credit of the City of Birmingham, Alabama, and by the full taxing powers of said City of Birmingham, Alabama, heretofore, now or hereafter conferred upon it by law. Said bonds are also secured by assessments against the property benefited by the improvements to pay for which said bonds are issued and the funds arising from said assessments are pledged for the payment of the principal and interest of said bonds. Said bonds and the interest thereon are exempt from State, County and Municipal taxation and after maturity are receivable in payment of all taxes and dues of the City of Birmingham, Alabama.

Each proposal must be accompanied by a certified check, payable to the City of Birmingham, in the sum of one (1%) per centum of the amount of the bonds bid for as an evidence of good faith and security for the performance of such proposal, and as liquidated damages in the event of failure of the successful bidder to accept and pay for the bonds. All bids must include accrued interest. No interest will be allowed on certified check accompanying bids. Said bonds will be delivered to the successful bidder or bidders on the 1st day of February, 1929, unless a later date should be mutually agreed upon.

City of Birmingham bonds are on the legal list of New York and Massachusetts. No bids will be considered at less than par and accrued interest, the right being reserved to reject any and all bids.

C. E. ARMSTRONG,
City Comptroller.

Bids close January 15, 1929.

Bridge
DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.
SEALED PROPOSALS for building a bridge as follows:

Cecil County, Cont. Ce-51—Triple span steel and concrete bridge, total length of 165 feet, over the tracks of the Pennsylvania Railroad Company, on the road between Perryville and Elkton (known as Red Mill Crossing), including all approaches, etc.

will be received by the State Roads Commission at its offices, 601 Garrett Building, Baltimore, Maryland, until 12 M. on the 15th day of January, 1929, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form, which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 27th day of December, 1928.

JOHN N. MACKALL, Chairman.
L. H. STEUART, Secretary.

Bids close January 15, 1929.

Water and Sewer Improvements

High Point, N. C.

Sealed proposals will be received by the Mayor and City Council for the City of High Point, North Carolina, until 2.30 o'clock P. M., Tuesday, January 15, 1929, for Water and Sewer Improvements enumerated as follows:

Trenching, laying and backfilling 970 feet of 18" sanitary sewer line complete.
Trenching, laying and backfilling 2,483 feet of 12" sanitary sewer line complete.
Trenching, laying and backfilling 5,032 feet of 8" sanitary sewer line complete.
Constructing 35 sewer manholes.

Furnishing the following materials F. O. B. cars High Point, N. C.:

Furnishing 970 feet of 18" terra cotta sewer pipe.
Furnishing 2,483 feet of 12" terra cotta sewer pipe.
Furnishing 5,032 feet of 8" terra cotta sewer pipe.

Proposals must be marked "PROPOSALS FOR WATER AND SEWER IMPROVEMENTS." All bids must be made upon blank forms provided in copies of the Proposal, Contract and Specifications, and addressed in a sealed envelope to the Mayor and City Council of the City of High Point, North Carolina.

Each bid must be accompanied by a certified check in the amount of five (5) per cent of the amount of the bid as evidence of good faith. Bid bonds will not be acceptable.

Copies of the Specifications, Form of Proposal, Contract, etc., may be obtained upon application to the Engineer.

The right is reserved to reject any or all bids or to award contract or contracts which in the opinion of the Engineer and City Council appear to be for the best interest of the City.

W. A. DAVIS, Mayor.

E. M. KNOX, City Manager.

P. J. DISHNER,
Supt. Water and Sewer Dept.,
High Point, N. C.

Bids close January 31, 1929.

High School

Montgomery, Ala.

Sealed proposals will be received up to 10 o'clock A. M. January 31, 1929, at the office of the COUNTY BOARD OF EDUCATION of Montgomery County, Montgomery, Alabama, for the erection and completion of a two-story fireproof JUNIOR HIGH SCHOOL BUILDING, including portion of same with basement, according to plans, specifications and details prepared by FREDERICK AUSFELD, Architect, Suite 404 Shepherd Building, Montgomery, Alabama. The building has a frontage of approximately 254 feet.

To insure consideration, each bid must be accompanied by a certified check signed by an authorized official of a National Bank or of a State Bank in the amount of 3% of the amount of bid, and made payable to L. C. CARDINAL, President of the County Board of Education of Montgomery County, Montgomery, Alabama, as a guarantee of good faith in that the Contractor will enter into a contract and make bond as called for in the specifications.

Plans, specifications and details will be ready for contractors on or before the 15th day of January, 1929, and will be issued only to and proposals considered from Contractors who submit evidence to the County Board of Education of their satisfactory financial ability and experience in the execution of contracts of similar character.

At the discretion of the President of the County Board of Education, plans, specifications and details may be obtained from the Architect by a deposit of a certified check in the amount of FIFTY DOLLARS (\$50), this amount to be returned to those who submit bona fide bids, hold receipt of the return of the plans and specifications and have returned same in good condition.

Sub-contractors and material dealers may obtain plans, specifications and details by the payment of the actual cost of same, which will not exceed THIRTY DOLLARS (\$30), which amount will not be returned.

All plans and specifications must be returned to the Architect on or before the date of the opening of bids.

Plans and specifications may be examined free at the office of the Architect.

The County Board of Education of Montgomery County, Montgomery, Alabama, reserves the right to reject any and all bids.

Bids close January 23, 1929.

Lamp Posts

DEPARTMENT OF PUBLIC WORKS
BUREAU OF MECHANICAL-ELECTRICAL SERVICE

Baltimore, Md.

Sealed bids or proposals, in duplicate, endorsed "PROPOSALS FOR PLAIN AND ORNAMENTAL IRON LAMP POSTS," addressed to the Board of Awards of Baltimore City, will be received at the office of the City Register, City Hall, Baltimore, Maryland, until eleven (11) o'clock A. M., Wednesday, January 23, 1929, at which time they will be publicly opened by the Board of Awards and read.

Specifications and proposal form may be obtained at the office of the Lighting Division, Bureau of Mechanical-Electrical Service, Room No. 321, Municipal Building, Baltimore, Maryland.

The Board of Awards reserves the right to reject any or all bids.

Bond in the amount of the contract price will be required of the successful bidder.

A certified check of the bidder on a clearing-house bank, drawn to the order of the Mayor and City Council of Baltimore, to the amount of Five Hundred Dollars (\$500) must accompany each bid.

WARREN VIESSMAN,
Mechanical-Electrical Engineer.

Bids close January 15, 1929.

Plumbing, Heating, Ventilating and Sprinkler System

Shreveport, La.

Sealed proposals will be received until 10 A. M. Tuesday, January 15, 1929, by S. G. Wolfe, Secretary-Treasurer, at the City Hall, Shreveport, La., for the plumbing, heating and ventilating work and the sprinkler system in the Municipal Memorial Auditorium for the City of Shreveport, La., L. E. Thomas, Mayor, in accordance with plans and specifications prepared by the Architects, Jones, Roessle, Olschner & Wiener, and Seymour Van Os, Associate.

All proposals shall be in accordance with form of proposal in specifications.

A certified check in the amount of three per cent (3%) of the total amount of the bid, made payable to the City of Shreveport, La., must accompany each bid in order that same shall receive consideration. This check is to be forfeited as just and liquidated damages to the owner should the contract be awarded to the successful bidder and he fail or refuse to sign the contract, and within 15 days after the awarding of the contract to him fail or refuse to furnish an approved Surety Bond complying with all the laws of the State of Louisiana in an amount of 100% of the contract price.

The plumbing work and the heating and ventilating work will be awarded by the Owner and then included in the General Contract. A certified check will be required as above outlined, and when contract is made the surety bond shall be given to the General Contractor.

Plumbing work bids shall be submitted separately from the bids on Heating and Ventilating in order to receive consideration. Any contractor, figuring both, who will not accept one contract without the other must so state the fact in his proposals. The Owner reserves the right to choose any two bids so as to obtain a satisfactory combination with one contractor, even though one of said bids may not be the lowest for that work.

Sprinkler System proposals shall be separate proposals and the successful contractor for same will be required to make contract with the General Contractor and do the work under his supervision.

Contractors who desire to submit bids may apply to the Architects, 219 Ardis Building, who will be furnished with one set of the plans and specifications upon receipt by the Architects of a Cashier's check in the sum of \$50.00. The check must be made payable to said Architects, and will be held for the return of the plans and specifications in good condition at the time of opening of bids, whereupon the said check will be immediately returned, provided a qualified and legitimate bid has been submitted.

The right is reserved by the city to reject any or all bids submitted.

S. G. WOLFE,
Secretary-Treasurer.